AGENCY USE ONLY				
PERMIT NO.: MTG010285	Date Rec'd.: 1/25/17	Amount Rec'd.: $1,200.00	Check No.: 7078	Rec'd By: BW

MT G010285

Montana Department of ENVIRONMENTAL QUALITY

WATER PROTECTION BUREAU

RECEIVED
JAN 25 2017
WATER QUALITY DIVISION

FORM **NOI**

Notice of Intent (NOI) for Montana Pollution Discharge Elimination System Application for New and Existing Concentrated Animal Feeding Operations

The Application form is to be completed by the owner or operator of a Concentrated Animal Feeding Operation (CAFO) or Aquatic Animal Production Facility. Please read the attached instructions before completing this form. You must print or type legibly; forms that are not legible or are not complete will be returned. You must maintain a copy of the completed application form for your records.

Section A - Application Status *(Check one):*

- [x] New — No prior application submitted for this site.
- [ ] Resubmitted — Permit Number: MTG _____
- [ ] Renewal — Permit Number: MTG _____
- [ ] Modification — Permit Number: MTG _____

COPY

Section B - Facility or Site Information (*See instruction sheet.*):

Site Name: Hill Top Colony

Site Location: (19N-5E-S21) 909 Spring Creek Road

Nearest City or Town: Stockett County: Cascade

Latitude: 47.391431 Longitude: -111.106968

Date Facility began operation? 2015

Is this facility or site located on Indian Lands? [ ] Yes [x] No

Section C - Applicant (Owner/Operator) Information:

Owner or Operator Name: Mike Hofer Hill Top Colony

Mailing Address: 909 Spring Creek Road

City, State, and Zip Code: Stockett, MT 59480

Phone Number: 1-406-736-5169

ENTERED
JAN 27 2017
GS

Is the person listed above the owner? [ ] Yes [x] No

Status of Applicant *(Check one)* [ ] Federal [ ] State [x] Private [ ] Public [ ] Other (specify) _____

Stats 1.D. 35

Section D - Existing or Pending Permits, Certifications, or Approvals: ☑ None

☐ MPDES _____ ☐ RCRA _____

☐ PSD (Air Emissions) _____ ☐ Other _____

☐ 404 Permit (dredge & fill) _____ ☐ Other _____

Section E – Standard Industrial Classification (SIC) Codes:

Provide at least one SIC code which best reflects the construction activity of project described in Section H.

Code	A. Primary	Code	B. Second
1	213	2	252
Code	**C. Third**	**Code**	**D. Fourth**
3	253	3	

Section F - Facility or Site Contact Person/Position:

Name and Title, or Position Title: Mike Hofer (Manager)

Mailing Address: Same as above

City, State, and Zip Code: Same as above

Phone Number: Same as above

Section G – Receiving Surface Waters(s):

Outfall/Discharge Locations: For each outfall, List latitude and longitude to the nearest second and the name of the receiving waters

Outfall Number	Latitude	Longitude	Receiving Surface Waters
001	47.391431	-111.106968	unnamed Tributary to Sand Coulee Creek
002	47.378468	-111.089287	unnamed tributary to Shelter Rock Creek
003			
004			
005			

Map: Attach a topographic map extending one mile beyond the property boundaries or the site activity identified in Section B depicting the facility or activity boundaries, major drainage patterns, and the receiving surface waters, stated above. Also identify the specific location of the production area, and land application area(s).

Is the receiving water on the 303(d) list for nutrients (nitrogen and/or phosphorus) ☐ Yes ☑ No

Section H – Concentration Animal Feeding Operation Characteristics

Waste Production, Storage and Disposal

Animal type	Number in Open Confinement	Number Housed Under Roof
☐ Mature Dairy Cows		
☐ Dairy Heifers		
☐ Veal Calves		
☐ Cattle (not dairy or veal)		
☑ Swine (55 lbs or over)		5530
☑ Swine (55 lbs or under)		1050
☐ Horses		
☐ Sheep or Lambs		
☐ Turkeys		
☐ Chickens (broilers)		
☐ Chickens (layers)		30,000
☐ Ducks		
☐ Other (Specify: Pullets)		15000
☐ Other (Specify:)		
☐ Other (Specify:)		

Manure, Litter and/or Wastewater Production and Use.

How much manure, litter, and process wastewater is generated annually by the facility?

Solid (tons): 1180 Liquid/Slurry (gallons): 3,850,000

If land applied, how many acres of land under control of the permit applicant are available to apply the manure, litter, or process wastewater generated from the facility? (Note: Do not include setback distances in available acreage

3971 Acres

How much manure, litter, and process wastewater is transferred to other persons per year? (estimated) Solid (tons): none Liquid/Slurry (gallons): none

Were the containment structures built after February 2006?

- ☑ Do the waste containment structures have 10 feet of separation between the pond bottom and any bedrock formations?
- ☑ Do the waste containment structures have 4 feet of separation from the pond bottom and any ground water?
- ☐ Were any of the waste containment structures built within 500 feet of any existing well?

N/A all to tanks & pits - no Lagoons

	Type of Containment/Storage	Total Capacity	Units (gallons or tons)	Days of Storage
☐	Anaerobic Lagoon			
☐	Storage Pond #1			
☐	Storage Pond #2			
☐	Storage Pond #3			
☐	Storage Pond #4			
☐	Storage Pond #5			
☐	Above Ground Storage Tank	3,046,305	gallons	288 days
☑	Below Ground Storage Tank #1			
☐	Below Ground Storage Tank #2			
☑	Underfloor Pits	1,266,900	gallons	120 days
☐	Roofed Storage Shed	591	tons	180 days
☐	Concrete Pad			
☑	Impervious Soil Pad			
☑	Other (Specify:_____)			
☐	Other (Specify:_____)			

Physical Data for CAFO

Nutrient Management Plan

All Concentrated Animal Feeding Operations seeking permit coverage after July 31, 2007 are required to complete and implement a Nutrient Management (NMP). The NMP must be submitted to the Department using the form provided by the Department (Form NMP). Check the box below that applies and provide the required information. The NMP must be developed in accordance with ARM 17.30.1334 and implemented upon the effective date of permit coverage. (Check One)

☑ Does the facility have an NMP?

Date NMP was developed: 12-30-16

Date NMP was last modified: _____

☐ NMP has not been prepared; provide detailed explanation below

Section I – Supplemental Information

See Attached facility schematics

Section J - CERTIFICATION

Permittee Information:

This Form NMP must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA]

A. Name (Type or Print)		
Mike J. Hofer		
B. Title (Type or Print)	C. Phone No.	
Manager	(406) 736-5769	
D. Signature	E. Date Signed	
Mike Hofer	12-30-2016	

The Department will not process this form until all of the requested information is supplied, and the appropriate fees are paid. Return this form (NOI) and the applicable fee to:

Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901
(406) 444-3080

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DEQ WATER QUALITY DIVISION

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JAN 27 2017
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Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

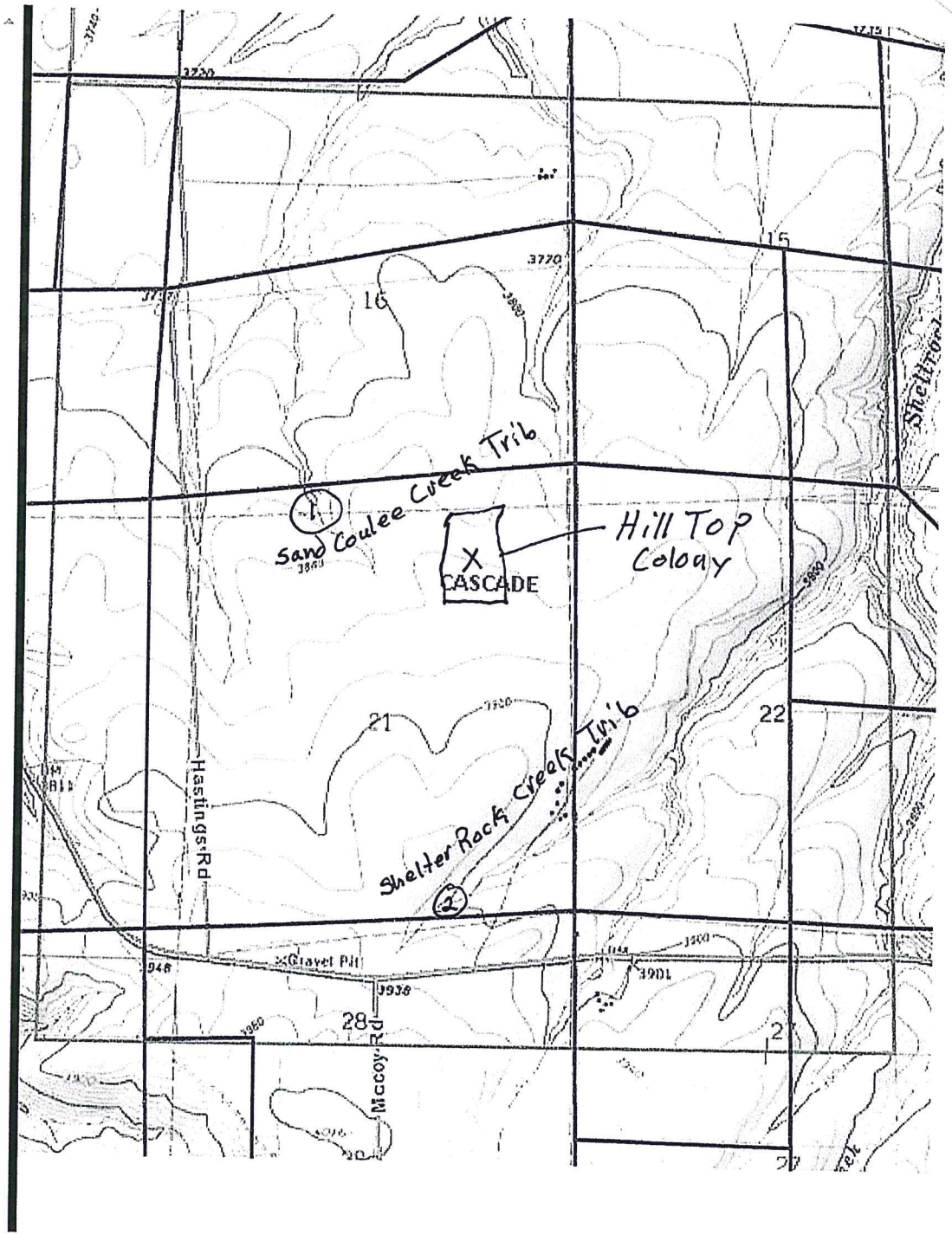
Buffer | Polygon

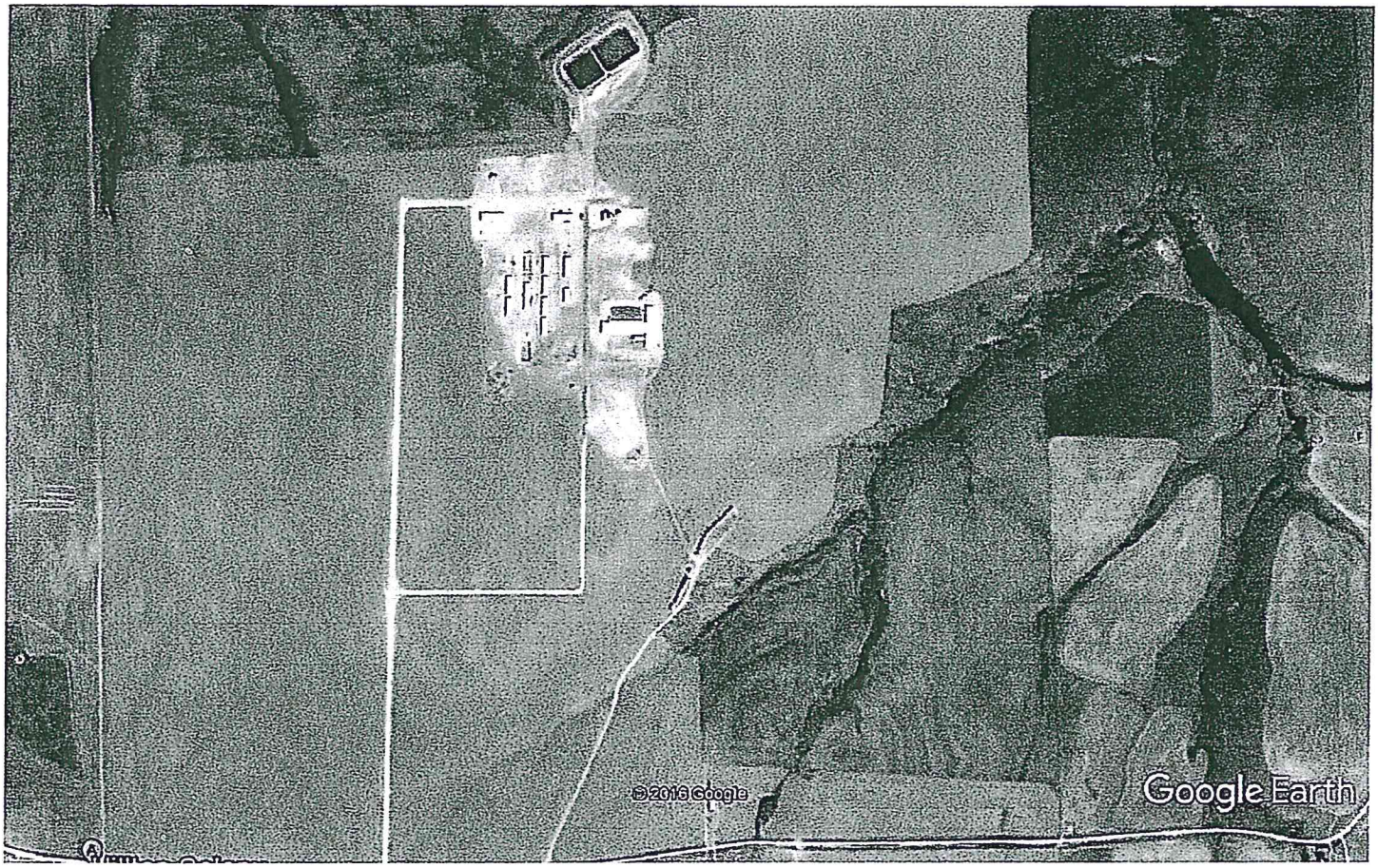
Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

BUMGARNER J EVERETT & VERNELDA M
PLEASANT VALLEY COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
STATE OF MONTANA
HILL TOP COLONY INC
HILL TOP COLONY INC
CALLENDER DENNIS B & PENELOPE M
STATE OF MONTANA
KLEFFNER PATRICIA JOANNE
PLEASANT VALLEY COLONY INC
FINLAYSON LAWRENCE W
KLEFFNER PATRICIA JOANNE
PLEASANT VALLEY COLONY INC





Google Earth

miles 1
km 1

HillTop Colony

United States Department of Agriculture

Cascade County, Montana

Hilltop Colony

Common Land Unit ▭ Tract Boundary

Cropland

· · Rangeland

Wetland Determination Identifiers

● Restricted Use

▽ Limited Restrictions

▩ Exempt from Conservation Compliance Provisions

Buffer 100'

265 ac Spreadable

Tract Cropland Total: 302.16 acres

2017 Program Year

Map Created February 18, 2016

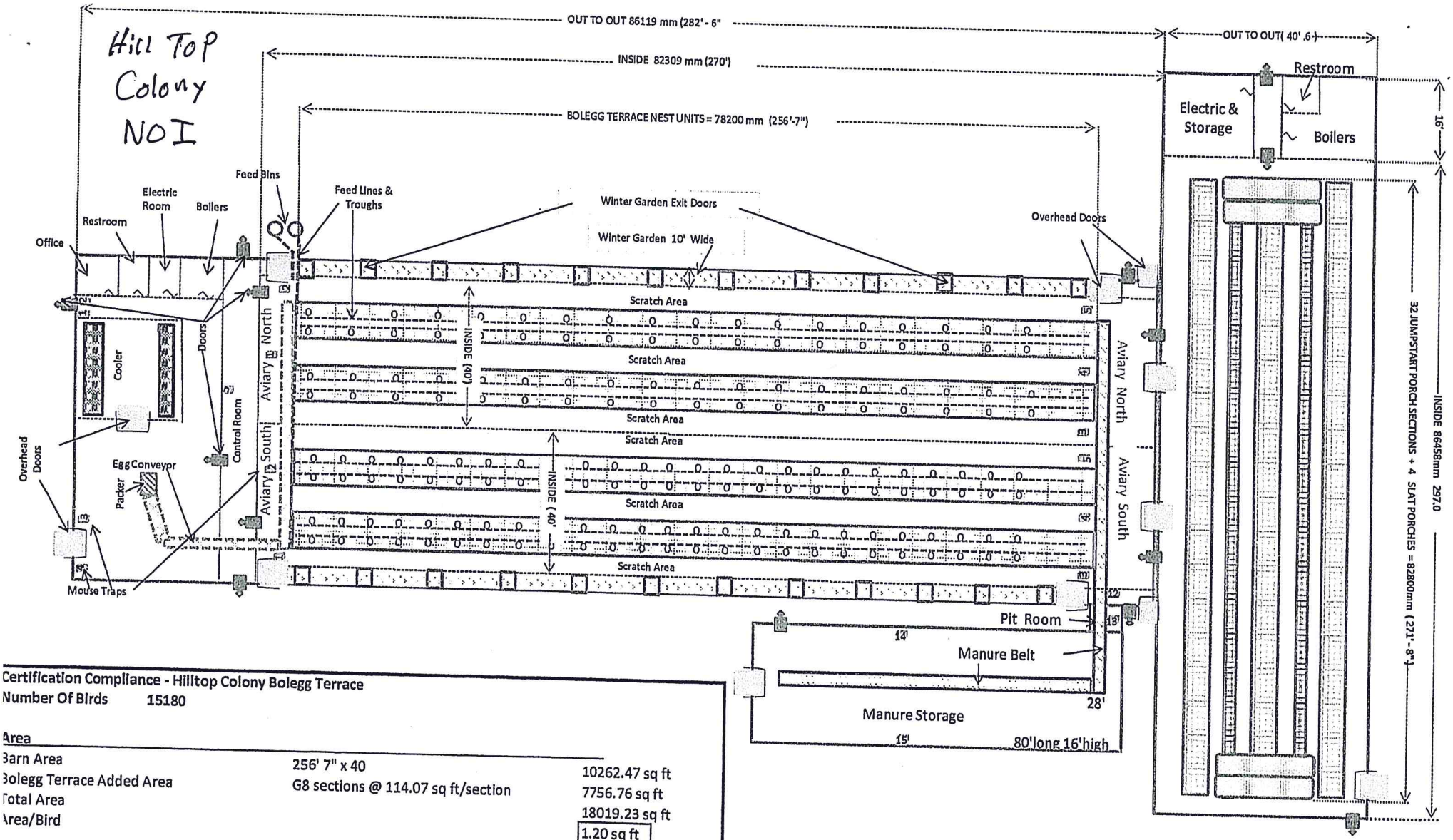
Farm **7965**

Tract **8199**

21-19N-5E

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. Wetland identifiers do not represent the size, shape, or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).

Hill Top Colony NOI



Certification Compliance - Hilltop Colony Bolegg Terrace

Number Of Birds 15180

Area

Barn Area	256' 7" x 40	10262.47 sq ft
Bolegg Terrace Added Area	G8 sections @ 114.07 sq ft/section	7756.76 sq ft
Total Area		18019.23 sq ft
Area/Bird		1.20 sq ft

Feed

Feed Trough	8 runs @ 3080.4" /run	24643.20 inches
Birds Allowed at 2.0" /bird		12322
Additional Feed Pans @ 27 birds/pan		100
Additional Birds fed with Pans		2700
Total birds fed		15180

Water

4 sections with 6 lines per section	
0 nipples per line	
Water availibility	2040
	7.35 bird/nipple

Perch

Perch Tubes	22 @ 3080.4"/tube	67769 inches
Slat Perches	G8 Sections @ 543" /section	36924 inches
Total Perching		104693 inches
Availible Perching		6.98 inches /bird

Nest

	64 nest sections	272 hens/section
	64 sections x 272/section	17408 possible hens
	Nest Density @ 15000 hens	234.38 hens/section

Note: There is 25.6 sq ft area of nest space / section

64 sections x 25.6 sq ft = 1638.4 sq ft nest space

Hill Top Colony

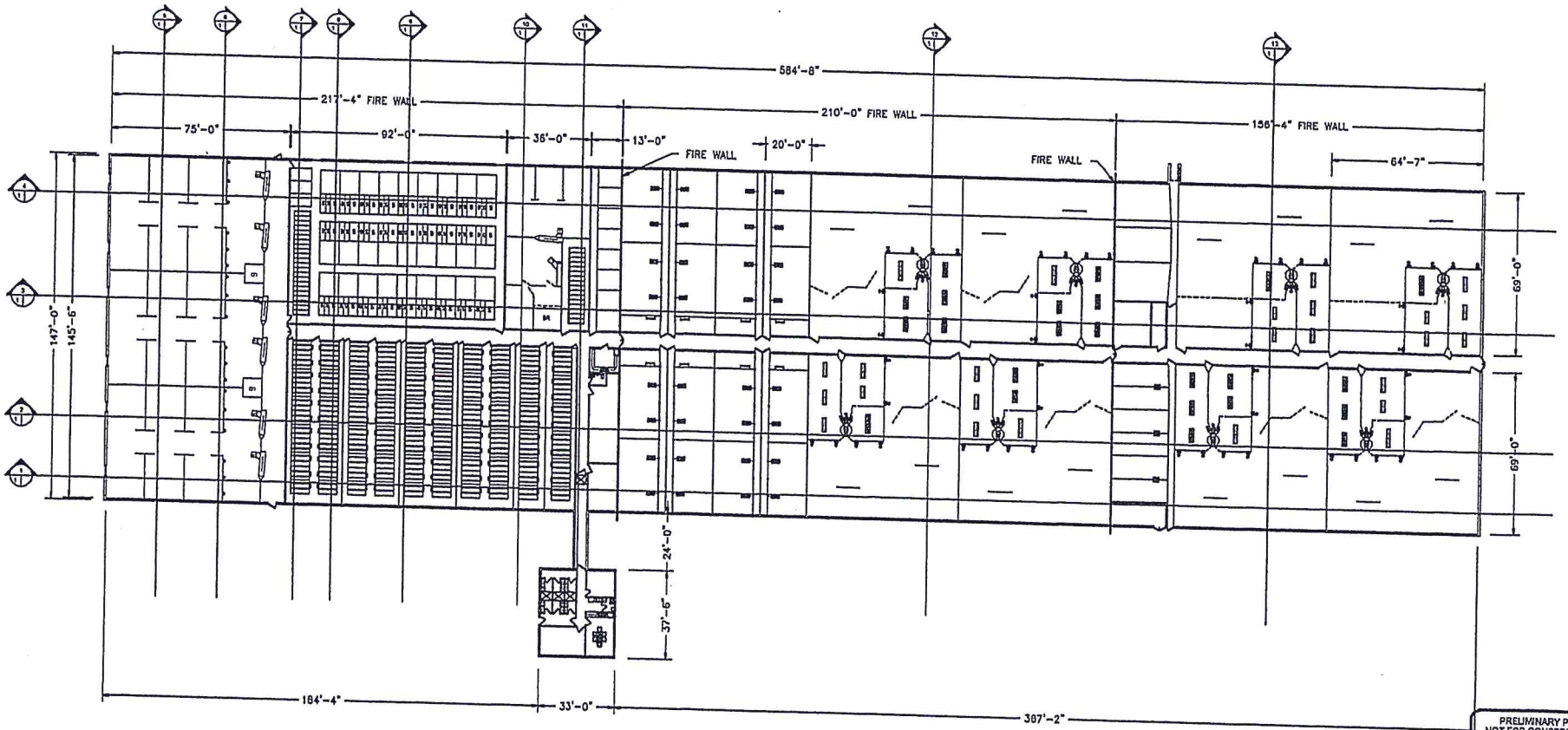
PRODUCT	SLURRYSTORE	
MODEL	17119 SSN	
NOM. DIA.	170.65ft	52,013mm
NOM. HGT.	18.81ft	5,732mm
CAPACITY	3,046,305gal	11,532m^3
S/N	1414779	
TANK TAG No.	HILLTOP 171X19	
PROJECT No.	GREAT FALLS, MT	
DATE	24-JUL-2015	
SPECIFIC GRAVITY	1.040	
DESIGN LIQUID LEVEL	17.81ft	5,427mm
DESIGN METAL TEMPERATURE	AMBIENT	

CST STORAGE

DEKALB, ILLINOIS 60115

USN 815-756-1551 WWW.CST-STORAGE.COM 266182 R-8

Hill Top Colony



PRELIMINARY PLAN
NOT FOR CONSTRUCTION

A = SECTION/DETAIL NUMBER
B = ORIGINATING SHEET NUMBER
C = DRAWN ON SHEET NUMBER

ENVIROTECH AG SYSTEMS LTD.
6 Nicolas Avenue, Winnipeg, MB Canada R2J 0T9
Phone: (204) 231-3354 Fax: (204) 231-8574

CLIENT: HILLTOP COLONY
CENTERVILLE, MT

PROJECT: FARROW - FINISH BARN

SHEET TITLE: PLAN VIEW

DATE: June 2, 2015 | BY: NICK BOSCH | SHEET NO. 1

FILE: Sow Barn 2015.dwg

AGENCY USE ONLY				
PERMIT NO.:	Date Rec'd.:	Amount Rec'd.:	Check No.:	Rec'd By:
MTG0101285	1/25/17	$1,200.00	7078	BW

Montana Department of ENVIRONMENTAL QUALITY

WATER PROTECTION BUREAU

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WATER QUALITY DIVISION

FORM
NMP

Nutrient Management Plan

READ THIS BEFORE COMPLETING FORM: Before completing this form (Form NMP), Concentrated Animal Feeding Operation (CAFO) operators need to read the General Permit, particularly Part IV.A. CAFO operators also need to read the "Instructions For filling out Form NMP," found at the back of this form. Form NMP is intended to help CAFO operators develop a site-specific Nutrient Management Plan, in compliance with Part IV.A of the General Permit and all applicable State rules and statutes. Your Nutrient Management Plan must be maintained at the site as required in Part III of the General Permit. Sections B and C on your Form NMP must state the information exactly the same way as it was stated on the most recently submitted version of your NOI-CAFO. Attach additional pages as necessary, indicating the corresponding section number on this NMP form. The 2013 General Permit, current fee schedule, and related forms are available from the Water Protection Bureau at (406) 444-3080 or http://www.deq.mt.gov/wqinfo/MPDES/CAFO.asp

Section A – NMP Status:

- [x] New — No prior NMP submitted for this site.
- [ ] Resubmitted — Previous NMP found incomplete.
- [ ] Modification — Change or update to existing NMP.
- [ ] New 2013 — New 2013 version of NMP.

Section B – Facility Information:

Facility Name Hill Top Colony

Facility Location (19N-5E-S21) 909 Spring Creek Road

Nearest City of Town Stockett County Cascade

Section C – Applicant (Owner/Operator Information):

Owner or Operator Name Mike Hofer

Mailing Address 909 Spring Creek Road

City, State, and Zip code Stockett, MT 59480

Facility Phone Number 1-406-736-5169

Email

Section D – NMP Minimum Elements:

1. Livestock Statistics		
Animal Type and number of animals	**# of Days on Site (per year)**	**Annual Manure Production (tons, cu. yds. or gal**
1. Sows 500	365	770,000 gal
2. Boars/Gilts 30	365	192,500 gal
3. Nursery <55 1050	365	962,500 gal
4. Grower/Finisher >55 5000	365	1,925,000 gal
5.		
6. layers 30000	365	786 tons
7. Pullets 15000	365	392 tons
8.		

Method used for estimating annual manure production:

DEQ 9 production tables adjusted for high efficiency
Liquid - 3,850,000 gallons
Solids - 1180 tons

2. Manure Handling

a. Describe Manure handling at the facility:
Liquid manure gravity flows to slurrystore tank then pumped as needed to fields. Solid manure is scraped and stored in a roofed storage shed. Solid waste is applied by spreader to fields before crop production or after harvest. Liquid manure is injected directly to the fields via drag hose and tool bar before crop production or after harvest.

b. Frequency of Manure Removal from confinement areas:
Injection and Solid waste applications occur before and after crop production

c. Is this manure temporarily stored in any location other than the confinement area? ☐ Yes ☑ No
If so then how and where?

d. Is manure stored on impervious surface? ☑ Yes ☐ No
If yes, describe type and characteristics of this surface:

All waste is stored in concrete pits, a lined Slurrystore, or on a concrete floored storage shed.

3. Waste Control Structures					
Waste Control Structures (name/type)	**Length (ft.)**	**Width (ft.)**	**Depth (ft.)**	**Volume (cubic ft. or gallons)**	**Number of days of storage**
1. Poultry Shed	80 ft	28	16 ft	591tons	180
2. Hog Barn Pits	584 ft	145 ft	2 ft	1,266,900 g	120
3. Slurrystore tank	170 ft	170 ft	18.5 ft	3,046,305 g	288 days
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

What is the 24 hr. 25 yr. storm event at this facility 2.5 inches Great Falls

Production area: 15 **acres.** **Type of lot (dirt or paved):** dirt/gravel

Area contributing drainage form outside CAFO that enters confinement areas and waste storage, conveyance, or treatment structures: < 20 **acres.**

What is the annual precipitation during the critical storage period 9.8 inches April - July

How much freeboard do the pond(s) have No Ponds

4. Disposal of Dead Animals.

Describe how dead animals are disposed of at this facility:

Animals are buried in a disposal pit and covered by soil within 48 hours of disposal.

5. Clean Water Diversion Practices

Describe how clean water is diverted from production area:

All Swine, and Poultry production is enclosed. Building run-off is directed away from waste storage facilities. No production areas are exposed to runoff .

6. Prohibiting Animals and Wastes from Contact with State Waters
Describe how animals and wastes are prohibited from direct contact with state waters:

No confined animals are in contact with State waters. See above

Describe how Chemicals and other contaminants are handled on-site:

All chemicals are stored within covered concrete storage outside of the manure production area.

7. Best Management Practice (BMPS)

Describe in detail all temporary, permanent and structural BMPS which will be used to control runoff of pollutants from facility's production area. Indicate the location of these measures. If BMPS are not installed include a schedule for implementation of each of these measures. Examples of BMP measures could include but are not limited to: constructing ditches, terraces,, and waterways above and open lot to divert clean water run on; installing gutters, downspouts and buried conduits to divert roof drainage; providing more roofed area: decreasing open lot surface area; repairing of adjusting water systems to minimize water wastage; using practical amounts of water for cooling purposes; recycling water if practical and applicable.
Production Area BMP's

All clean water is diverted away from waste storage areas by drainage. All Swine, and Poultry production is indoors. All liquid manure is stored in underfloor pits and tanks. Stored manure is removed and applied to fields in a timely manner based on agronomic rates. Poultry manure is only applied during summer and fall.

Describe in detail all temporary, permanent and structural Best Management Practices (BMPs) which will be used to control runoff of pollutants from facility's land production area. Indicate the location of these practices. If not already in use, include a schedule for implementation of each of these measures. Attached details and specifications may be used to supplement this description. Examples of BMP measures could include but are not limited to: maintaining setbacks from surface waters for manure applications; managing irrigation practices to prevent ponding of wastewater on land application sites;

never spray irrigating waste on to frozen ground: consulting with the Department prior to applying any liquid waste to frozen or snow-covered ground; applying wastes at agronomic rates.

Land Application BMP's

Liquid manure is applied by direct injection. A minimum of 100 feet is maintained for manure application set backs as needed. Grass filters are present along drainage ways and field borders. See maps for locations. Solid manure is applied in the summer and fall before freeze up at agronomic rates. Liquid manure is injected and solid manure is incorporated over 3 months after application.

Buffers	☑ Yes ☐ No	**Conservation Tillage**	☑ Yes ☐ No
Constructed Wetlands	☐ Yes ☐ No	**Grass Filter**	☑ Yes ☐ No
Infiltration Field	☐ Yes ☐ No	**Residue Management**	☑ Yes ☐ No
Set backs	☑ Yes ☐ No	**Terrace**	☐ Yes ☐ No

Other examples

8. Implementation, Operation, Maintenance and Record Keeping – Guidance

The permittee is required to develop guidance addressing implementation of NMP, proper operation and maintenance of the facility, and record keeping as described in Part 2 of the permit.

Has a guidance document been developed for the facility? ☑ Yes ☐ No

Certify the document address the following requirements:

Implementation of the NMP:	☑ Yes ☐ No
Facility operation and maintenance:	☑ Yes ☐ No
Record keeping and reporting	☑ Yes ☐ No
Sample collection and analysis:	☑ Yes ☐ No
Manure transfer	☐ Yes ☑ No

Provide name, date and location of most recent documentation:
MT DEQ Circular 9 Guidance Document (Colony)
MSU Extension service CAFO record keeping Sheets last updated December 2012. (Colony)
Agvise Laboratories 9-20-16 Soils. (Colony)
Agvise Laboritories 11-7-16 Manure. (Colony)

If your answer to any of the above question is no, provide explanation:
All manure is field applied within this Nutrient Management plan. No manure is transferred to a second party.

Section E – Land Application

Will manure be land applied to land either owned, rented, or leased by the owner or operator of the facility?

☑ Yes If yes, then the information requested in Section E must be provided.

☐ No If no, then provide an explanation of how animal waste at this facility are managed.

See attached maps (poultry manure is applied by pull type spreader)

Photos and/or Maps

Attach an aerial photograph or map of the site where manure is to be applied. (Use multiple photos/maps if necessary to show required details.) The photo(s)/map(s) must be printed on no larger than an 11"X 17" piece of paper, and must clearly identify the following items:

- Individual field boundaries for all planned land application areas
- A name, number, letter or other means of identifying each individual land application field
- The location of any downgradient surface waters.
- The location of any downgradient open tile line intake structures
- The location of any downgradient sinkholes
- The location of any downgradient agricultural well heads
- The location of all conduits to surface waters
- The specific manure/waste handling or nutrient management restrictions associated with each land application field
- The soil type(s) present and their locations within the individual land application field(s)
- The location of buffers and setbacks around state surface waters, well heads, etc.

Land Application Equipment Calibration

Describe the type of equipment used to land apply wastes and the calibration procedures:

Drag hose injector system and a solid spreader pulled by a tractor. Flow Meter and DEQ 9 procedure.

Manure Sampling and Analysis Procedures

A representative manure sample will be analyzed a minimum of once annually for Total Nitrogen, and Total Phosphorus. Analysis results will be reported in lbs/ton or lbs/1,000 gal. Results of these analyses will be used in determining rates for manure, litter, and process wastewater.

Manure Sample collection will occur according to ARM 17.30.1334

Other (describe)

Manure is sampled annually per DEQ-Circular 9 procedure and submitted to Agvise Labs

Soil Sampling and Analysis Procedures

Representative soil (composite) samples from the top 6 inches layer of soil for each field where manure will be applied must be analyzed for phosphorus content at least once every three years. Analyses will be conducted by a qualified laboratory, using the Olsen P test. Results will be reported in parts per million (ppm) and will be used in determining application rates for manure, litter, and process wastewater

Soil samples collection will occur according the methods in ARM 17.30.1334

Other (describe)

All fields receiving manure are annually sampled per DEQ-Circular-9 guidelines.

Phosphorus Risk Assessment

The permittee shall access the risk of phosphorus contamination of state waters. An assessment shall be conducted for each field, under the control of the operator, to which manure, litter or process wastewater will or

The applicant has 2 ways in which to report how manure or process wastewater application rates can be reported to DEQ.

1. **Linear Approach.** Expresses rates of application as pounds of nitrogen and phosphorus. CAFOs selecting the linear approach to address rates of application must include in the NMP submitted to the permitting authority the following information for each crop, field, and year covered by the NMP, which will be used by the permitting authority to establish site-specific permit terms:
• The maximum application rate (pounds/acre/year of nitrogen and phosphorus) from manure, litter, and process wastewater.
• The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field. [If a state does not have an N transport risk assessment, the NMP must document any basis for assuming that nitrogen will be fully used by crops.] The CAFO must specify any conservation practices used in calculating the risk rating.
• The crops to be planted or any other uses of a field such as pasture or fallow fields.
• The realistic annual yield goal for each crop or use identified for each field.
• The nitrogen and phosphorus recommendations from in ARM 17.30.1334 (technical standard) for each crop or use identified for each field.
• Credits for all residual nitrogen in each field that will be plant-available.
• Consideration of multi-year phosphorus application. For any field where nutrients are applied at a rate based on the crop phosphorus requirement, the NMP must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement.
• All other additions of plant available nitrogen and phosphorus (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen).
• The form and source of manure, litter, and process wastewater to be land-applied.
• The timing and method of land application. The NMP also must include storage capacities needed to ensure adequate storage that accommodates the timing indicated.
• The methodology that will be used to account for the amount of nitrogen and phosphorus in the manure, litter, and wastewater to be applied.
• Any other factors necessary to determine the maximum application rate identified in accordance with this Linear Approach.

2. **Narrative Rate Approach.** Expresses a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied. CAFOs selecting the narrative rate approach to address rates of application must include in the NMP submitted to the permitting authority the following information for each crop, field, and year covered by the NMP, which will be used by the permitting authority to establish site-specific permit terms:
• The maximum amounts of nitrogen and phosphorus that will be derived from all sources of nutrients (pounds/acre for each crop and field).
• The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field. The CAFO must specify any conservation practices used in calculating the risk rating.
• The crops to be planted in each field or any other uses of a field such as pasture or fallow fields, including alternative crops if applicable. Any alternative crops included in the NMP must be listed by field, in addition to the crops identified in the planned crop rotation for that field.
• The realistic annual yield goal for each crop or use identified for each field for each year, including any alternative crops identified.
• The nitrogen and phosphorus recommendations from ***[the permitting authority to specify acceptable sources]*** for each crop or use identified for each field, including any alternative crops identified.
• The methodology (including formulas, sources of data, protocols for making determination, etc.) and actual data that will be used to account for: (1) the results of soil tests required by Parts II.A.4.b and III.A.3.g of this

permit, (2) credits for all nitrogen in the field that will be plant- available, (3) the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied, (4) consideration of multi-year phosphorus application (for any field where nutrients are applied at a rate based on the crop phosphorus requirement, the methodology must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement), (5) all other additions of plant available nitrogen and phosphorus to the field (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen), (6) timing and method of land application, and (7) volatilization of nitrogen and mineralization of organic nitrogen.
• Any other factors necessary to determine the amounts of nitrogen and phosphorus to be applied in accordance with the Narrative Rate Approach.
• NMPs using the Narrative Rate Approach must also include the following projections, which will not be used by the permitting authority in establishing site-specific permit terms:
i. Planned crop rotations for each field for the period of permit coverage.
ii. Projected amount of manure, litter, or process wastewater to be applied.
iii. Projected credits for all nitrogen in the field that will be plant-available.
iv. Consideration of multi-year phosphorus application.
v. Accounting for other additions of plant-available nitrogen and phosphorus to the field.
vi. The predicted form, source, and method of application of manure, litter, and process wastewater for each crop

• If the receiving water is on the 303(d) list for nutrients then the narrative rate approach must be used.

a. For the Linear Approach the permittee will complete the Nutrient Budget Worksheet, below, for the next 5 years to which manure or process waste water is or may be applied. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Field identification: Section 9 Year: 2017 Crop: Spring Wheat					
Expected Crop Yield: 50 Bushels/acre					
Phosphorus index results or Phosphorus application from soil test: 17 PPM P Soil test					
Method of Application: Solid Spreader not incorporated within 3 days.					
When will application occur: September/October 2016					
Nutrient Budget			Nitrogen-based Application	Phosphorus-based Application	Source of information
1		Crop Nutrient Needs, lbs/acre	165 lbs	31 lbs	EB161
2	(-)	Credits from previous legume crops, lbs/ac	24 lbs	NA	Soil Test N
3	(-)	Residuals from past manure production lbs/acre	NA	NA	First Application
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	26 lbs	O	56 lbs Urea
5	(-)	Nutrients supplied in irrigation water, lbs/acre	NA	NA	
6		**= Additional Nutrients Needed, lbs/acre**	115 lbs	31 lbs	EB 161 Table 21
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)	92 lbs/ton	65 lbs/ton	Midwest Lab
8	(x)	Nutrient Availability factor, for Phosphorus based application use 1.0	.6	1	NRCS DEQ-9
9		**= Available Nutrients in Manure, lbs/ton or lbs/1000 gal**	55 lbs/ton	65 lbs/ton	
10		Additional Nutrients needed, lbs/acre (calculated above)	115 lbs	31 lbs	
11	(/)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)	55 lbs/ton	65 lbs/ton	
12		**= Manure Application Rate, tons/acre or 1000 gal/acre**	2 tons/acre	NA	(Nitrogen Based)

Comments:

Poultry Manure - nitrogen based application for soil sampled fields in section 9. See section 9 in NMP plan for soil and manure test information. Liquid manure will be applied for1st time in fall of 2017.

Section F - CERTIFICATION

Permittee Information: This form must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA]

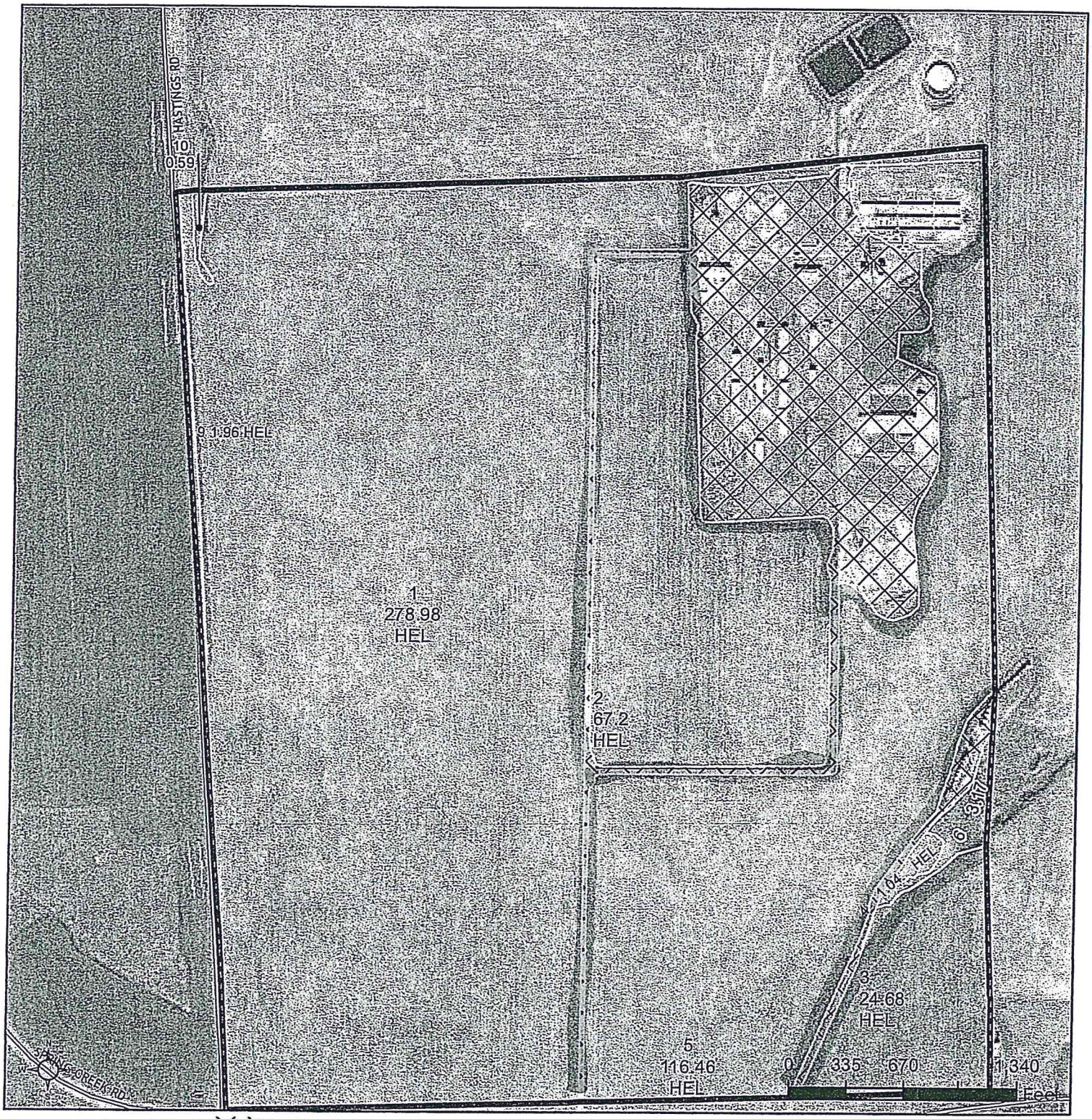
A. Name (Type or Print)	
Mike J. Hofer	
B. Title (Type or Print)	**C. Phone No.**
Operator	(406) 736-5169
D. Signature	**E. Date Signed**
Mike J. Hofer	12-30-2016

The Department will not process this form until all of the requested information is supplied, and the appropriate fees are paid. Return this form and the applicable fee to:

Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901
(406) 444-3080

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

480 ac spreadable

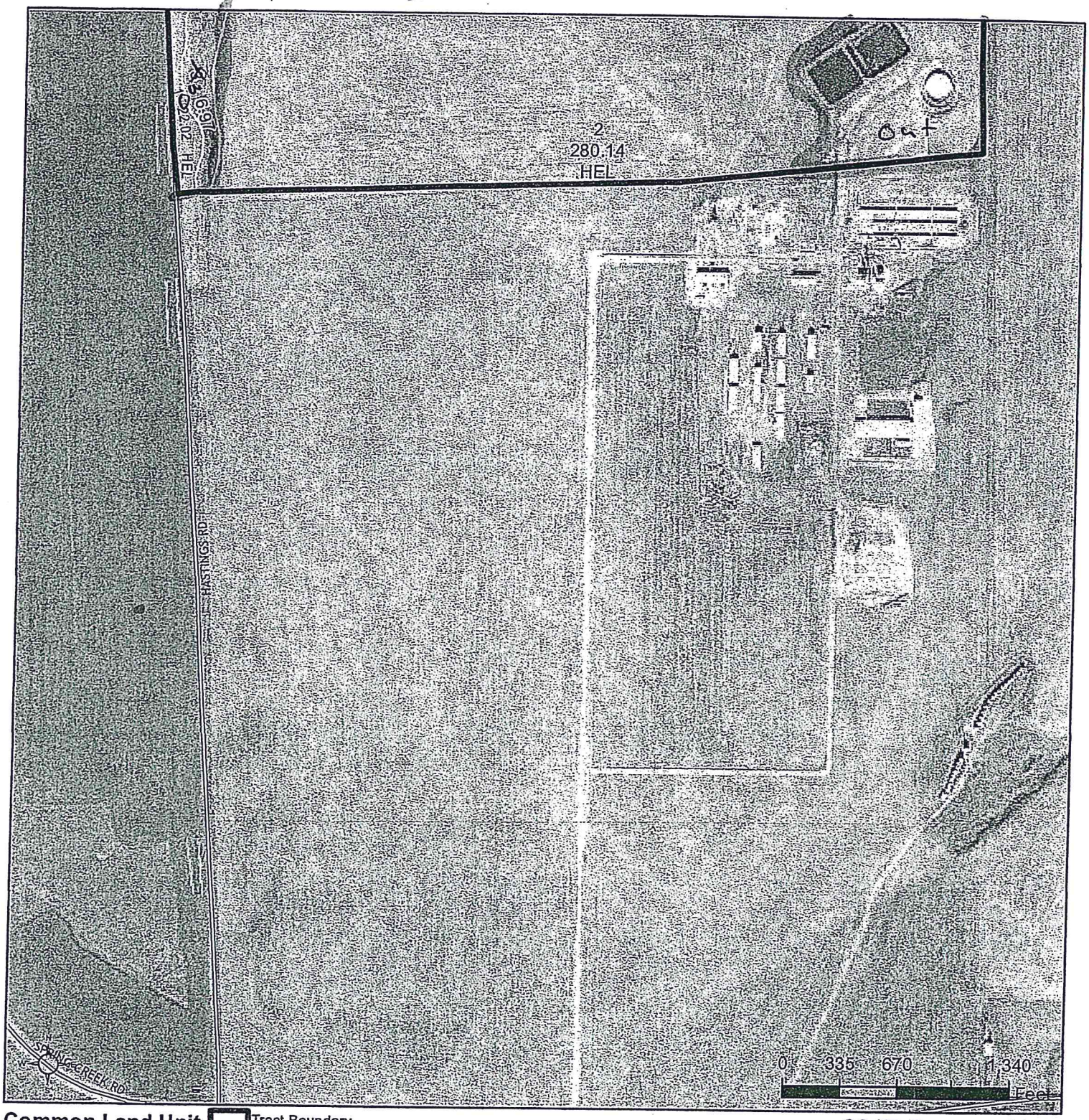
Tract Cropland Total: 490.32 acres

2017 Program Year
Map Created February 18, 2016

Farm **7965**
Tract **8200**
21-19N-5E

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

265 ac Spreadable

Tract Cropland Total: 302.16 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **8199**

21-19N-5E

Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

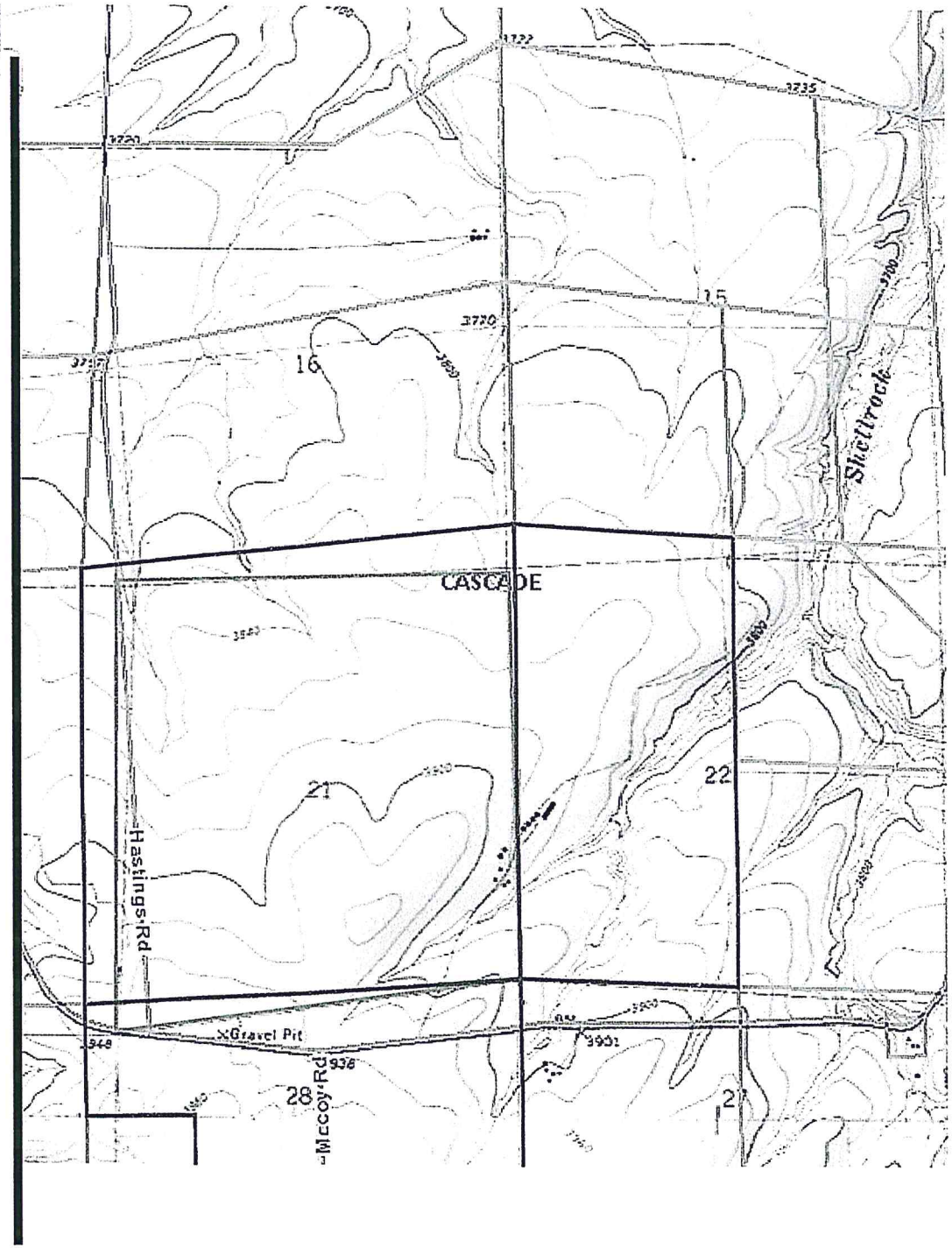
Click on the polygon button again to reset.

Choose Owner Name...

HILL TOP COLONY INC

HILL TOP COLONY INC

PLEASANT VALLEY COLONY INC



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 21 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 21	Crop: Wheat	Year: 2017 - 2018						
Field Category Factor	**None (0)**	**Low (1)**	**Medium (2)**	**High (4)**	**Very High (8)**	**Risk Value (0,1,2,4,8)**	**Weight Factor**	**Weight Risk**
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
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Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
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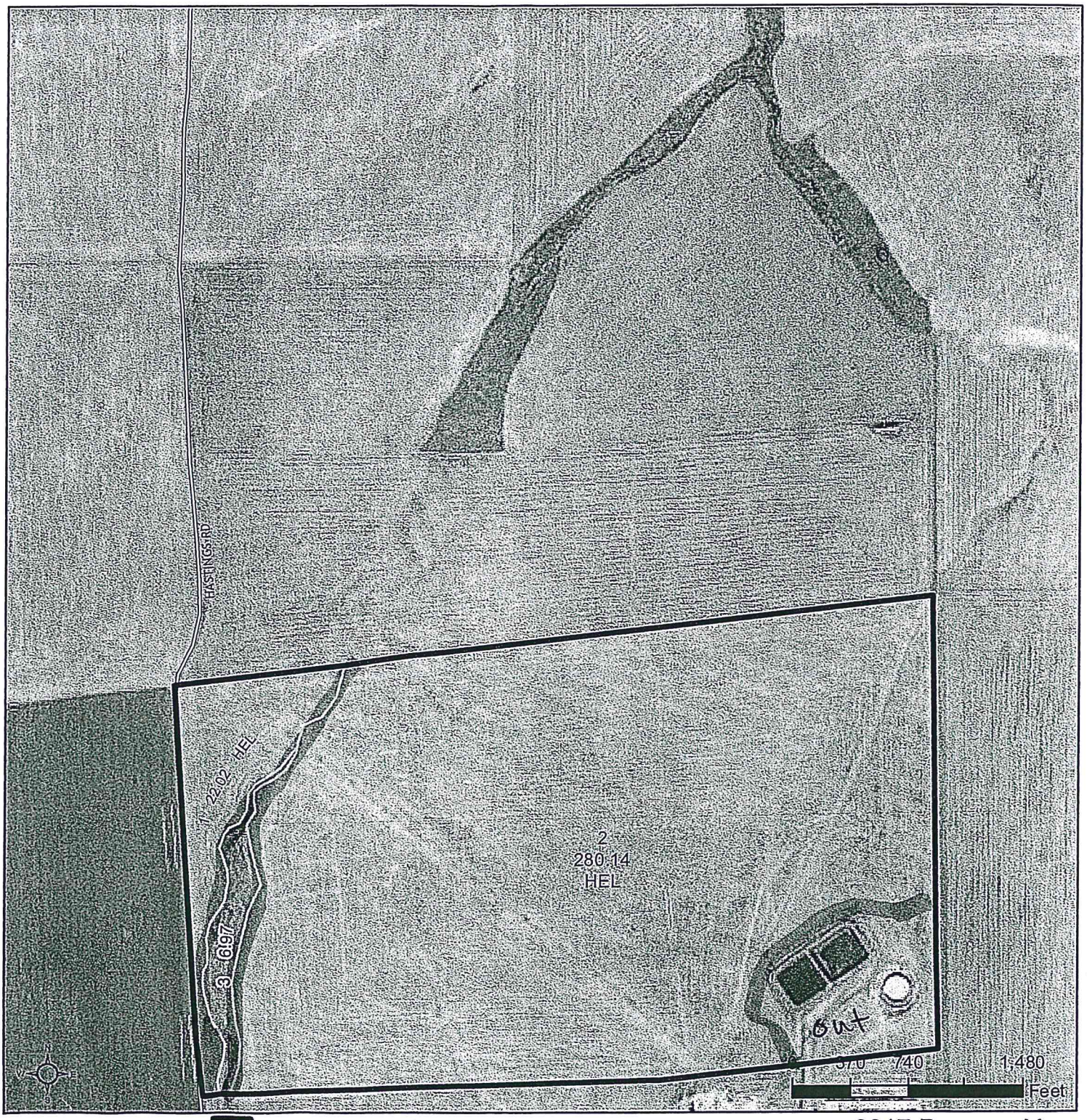
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Hill Top Colony NMP

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

~~Buffer 100'~~

265 ac spreadable

Tract Cropland Total: 302.16 acres

2017 Program Year

Map Created February 18, 2016

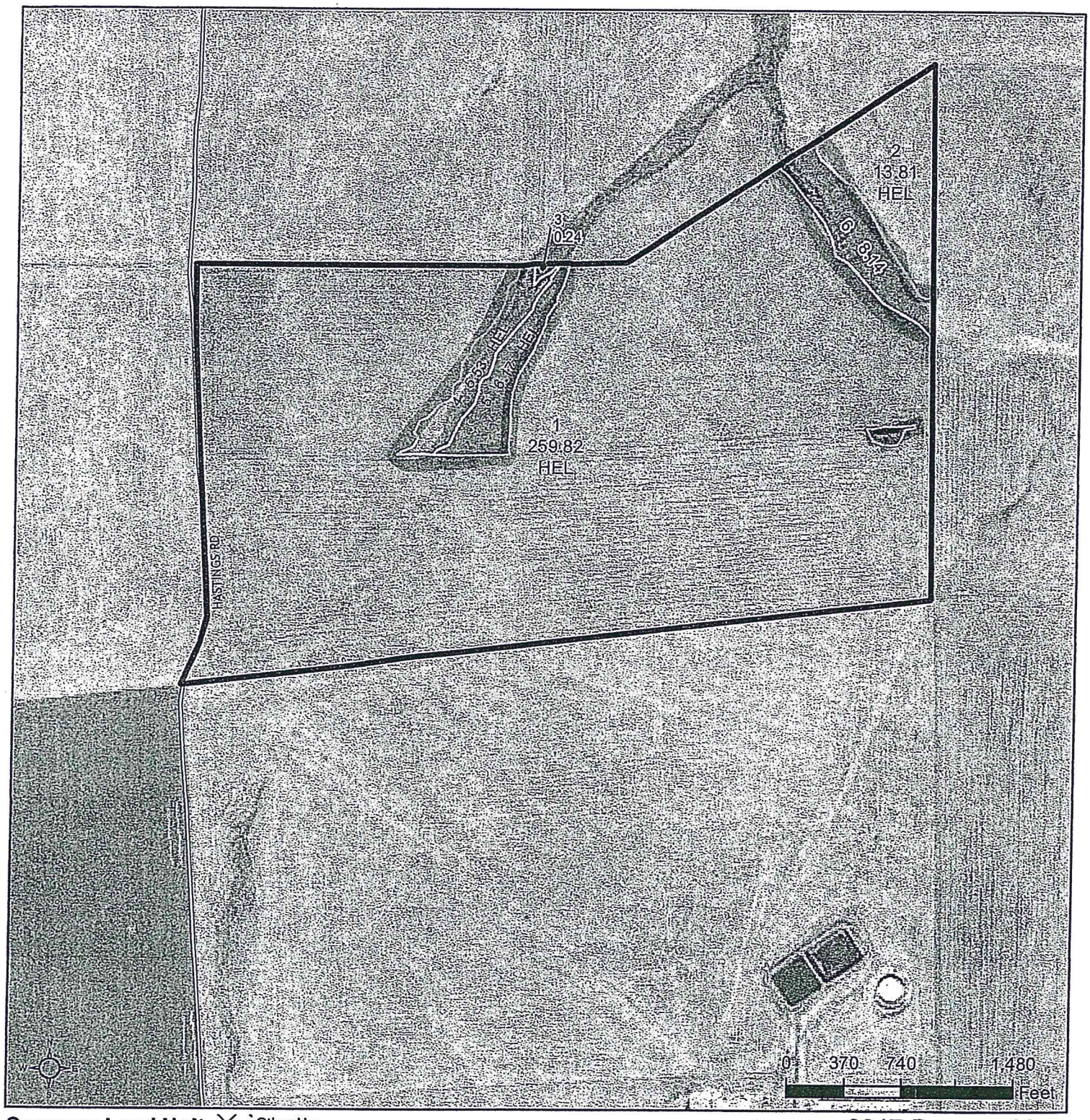
Farm **7965**

Tract **8199**

16-19N-5E

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit
- Cropland
- Rangeland

Other Use

Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

255 ac spreadable

Tract Cropland Total: 285.33 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **9207**

16-19N-5E

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Switch Map Tool...

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- ○ Quick Zoom
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Buffer/Area Select Options

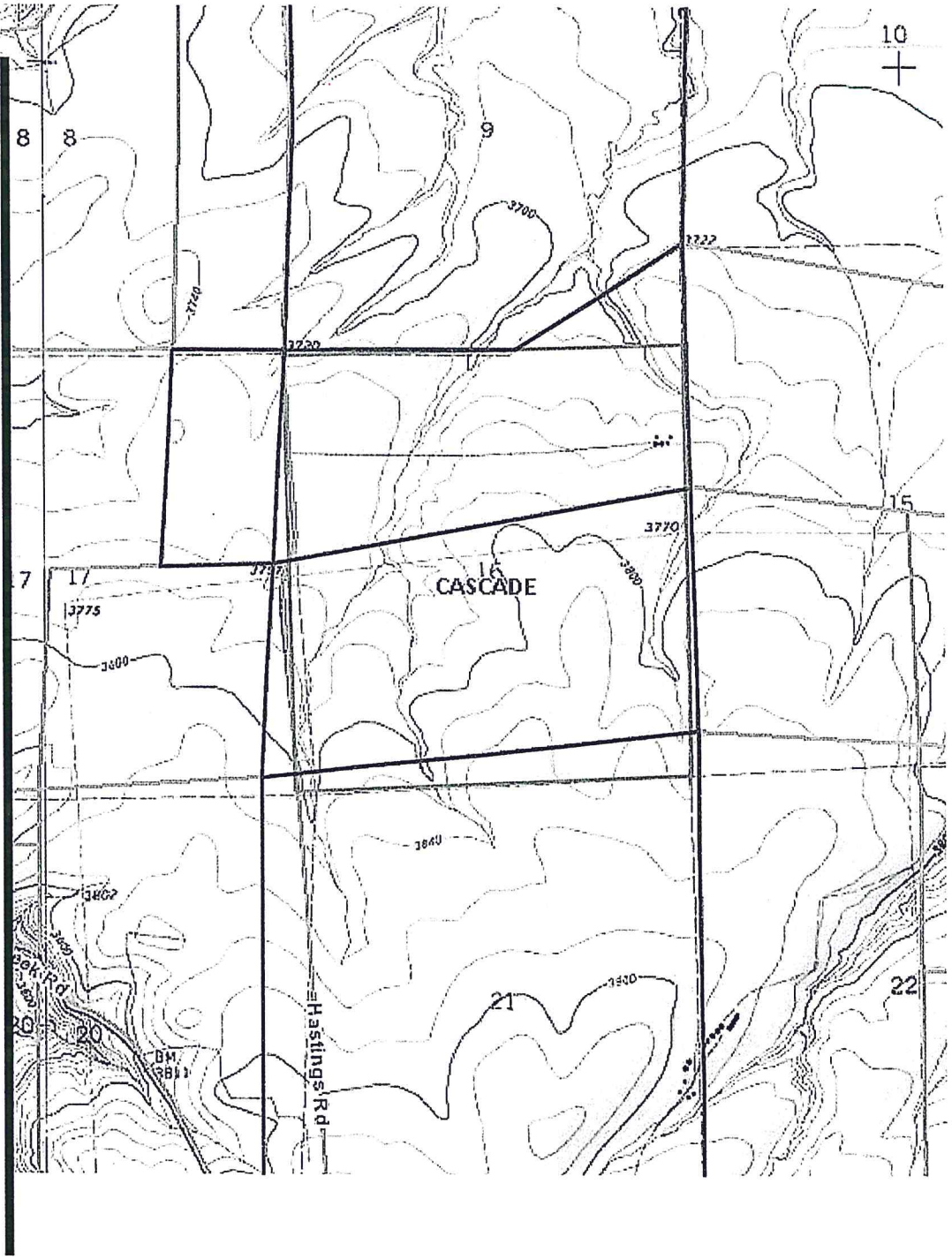
Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 16 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
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Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 16		Crop: Wheat		Year: 2017 - 2018				
Field Category Factor	**None (0)**	**Low (1)**	**Medium (2)**	**High (4)**	**Very High (8)**	**Risk Value (0,1,2,4,8)**	**Weight Factor**	**Weight Risk**
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Olson Soil Test P	——	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
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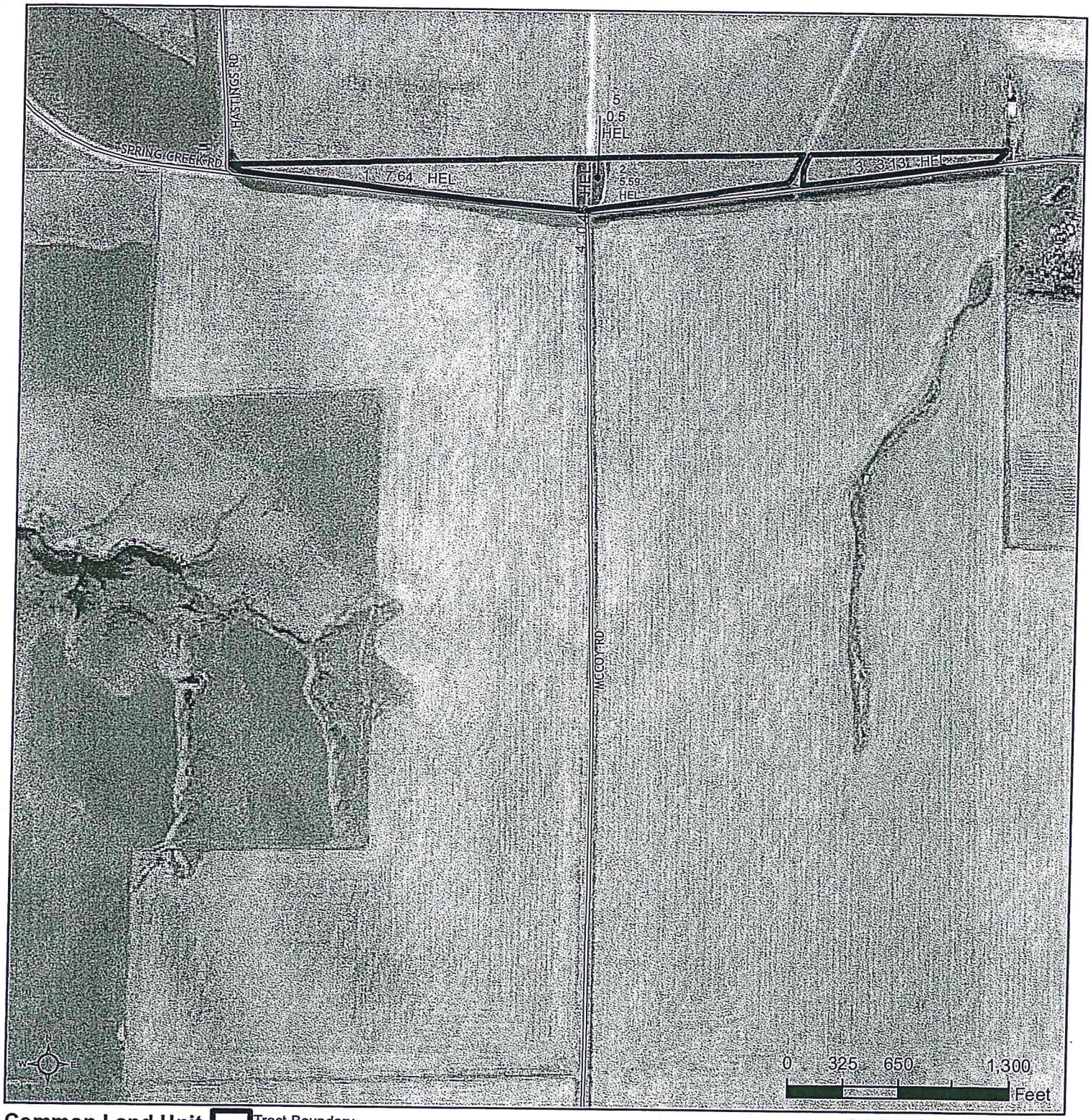
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:		Liquid Hog Manure						9

Hill Top Colony NMP 3 of 10

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit Tract Boundary

Cropland

Other Use

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

~~Buffer 100'~~

15 ac spreadable

Tract Cropland Total: 17.31 acres

2017 Program Year

Map Created February 18, 2016

Farm **7933**

Tract **10696**

28-19N-5E

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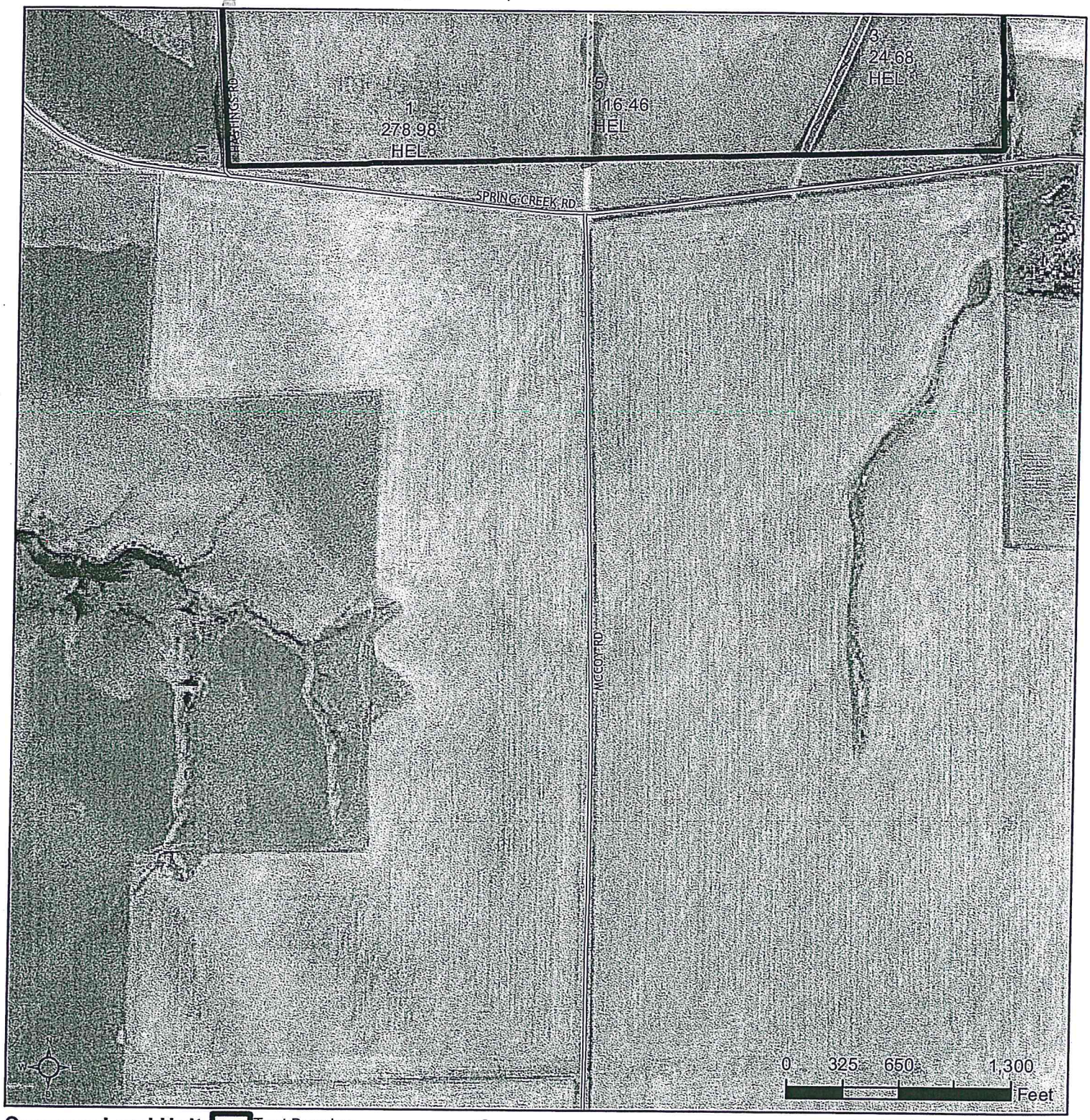
Cascade County, Montana



Common Land Unit Tract Boundary
Cropland
Other Use

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'
~~255~~ 480 ac spreadable

Tract Cropland Total: 490.32 acres

2017 Program Year
Map Created February 18, 2016

Farm **7965**
Tract **8200**
28-19N-5E

Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

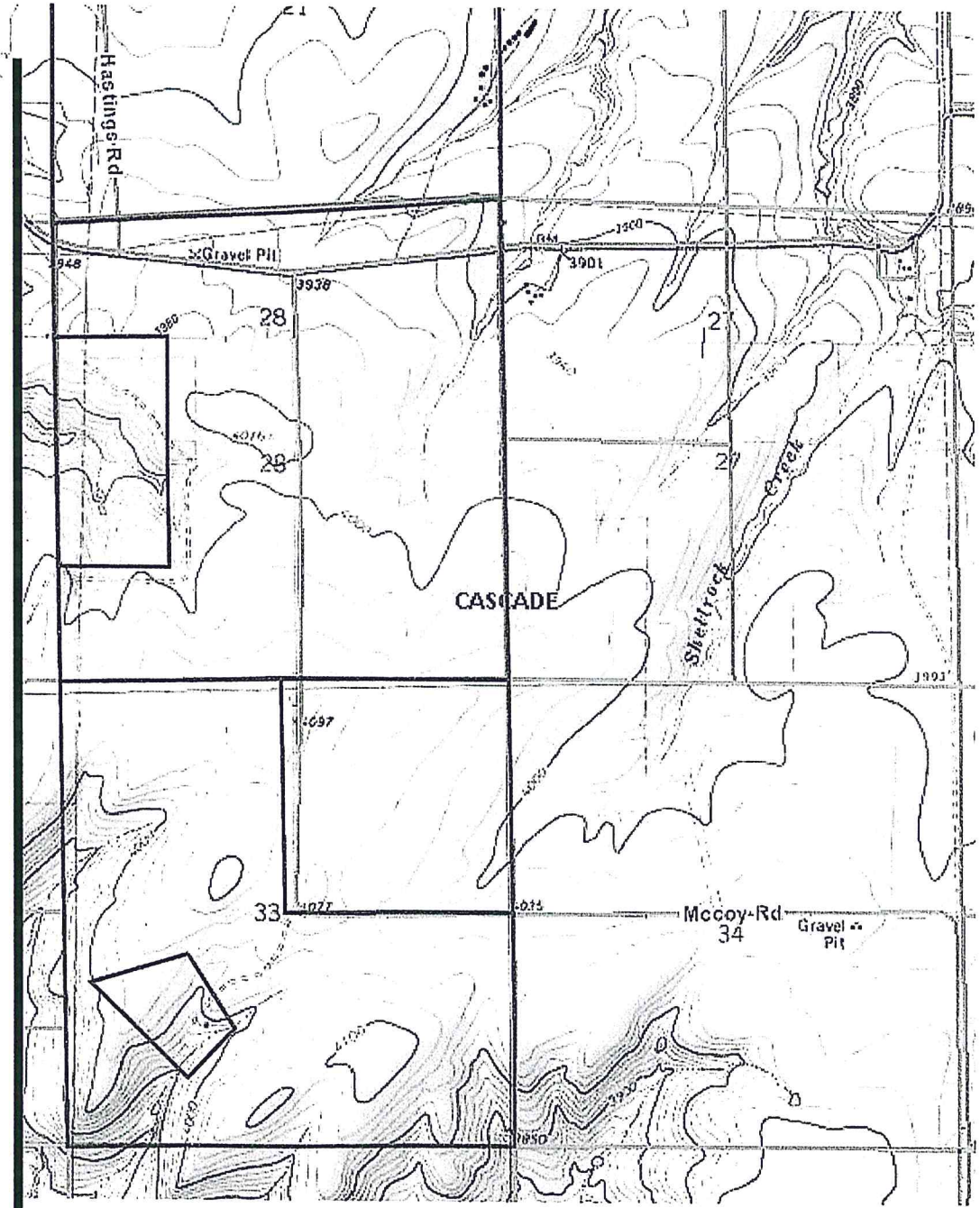
Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

PLEASANT VALLEY COLONY INC
HILL TOP COLONY INC
PLEASANT VALLEY COLONY INC
PLEASANT VALLEY COLONY INC
PLEASANT VALLEY COLONY INC



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 28 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
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Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 28 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Hill Top Colony NMP

4 of 10

USDA United States Department of Agriculture

Cascade County, Montana

Common Land Unit

Cropland

Tract Boundary

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

545 ac spreadable

Tract Cropland Total: 562.90 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

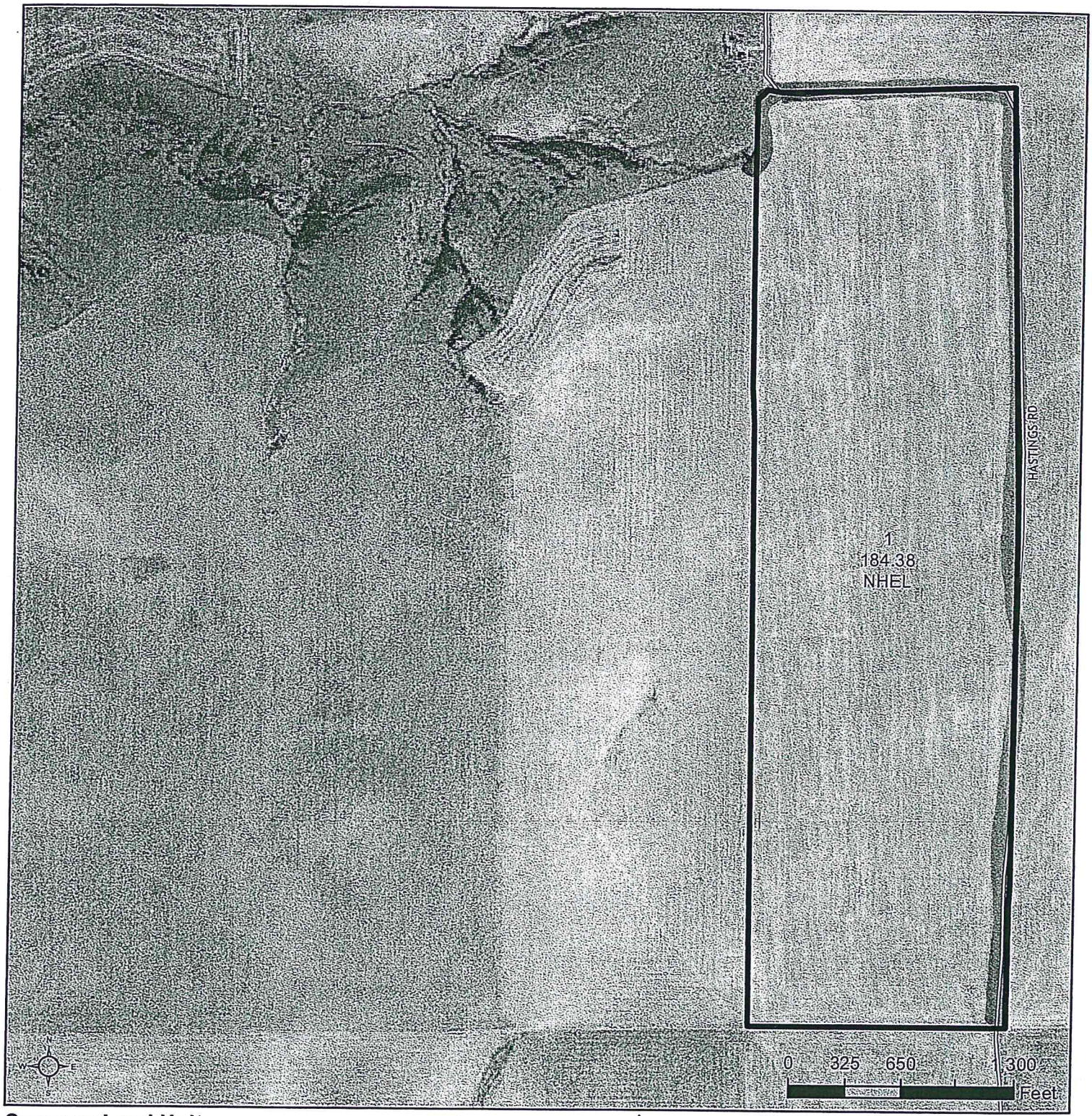
Tract **10007**

8-19N-5E

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. .Wetland identifiers do not represent the size, shape, or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit

Cropland

Tract Boundary

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

~~Buffer 100'~~

183 ac spreadable

Tract Cropland Total: 184.38 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **9206**

8-19N-5E

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Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

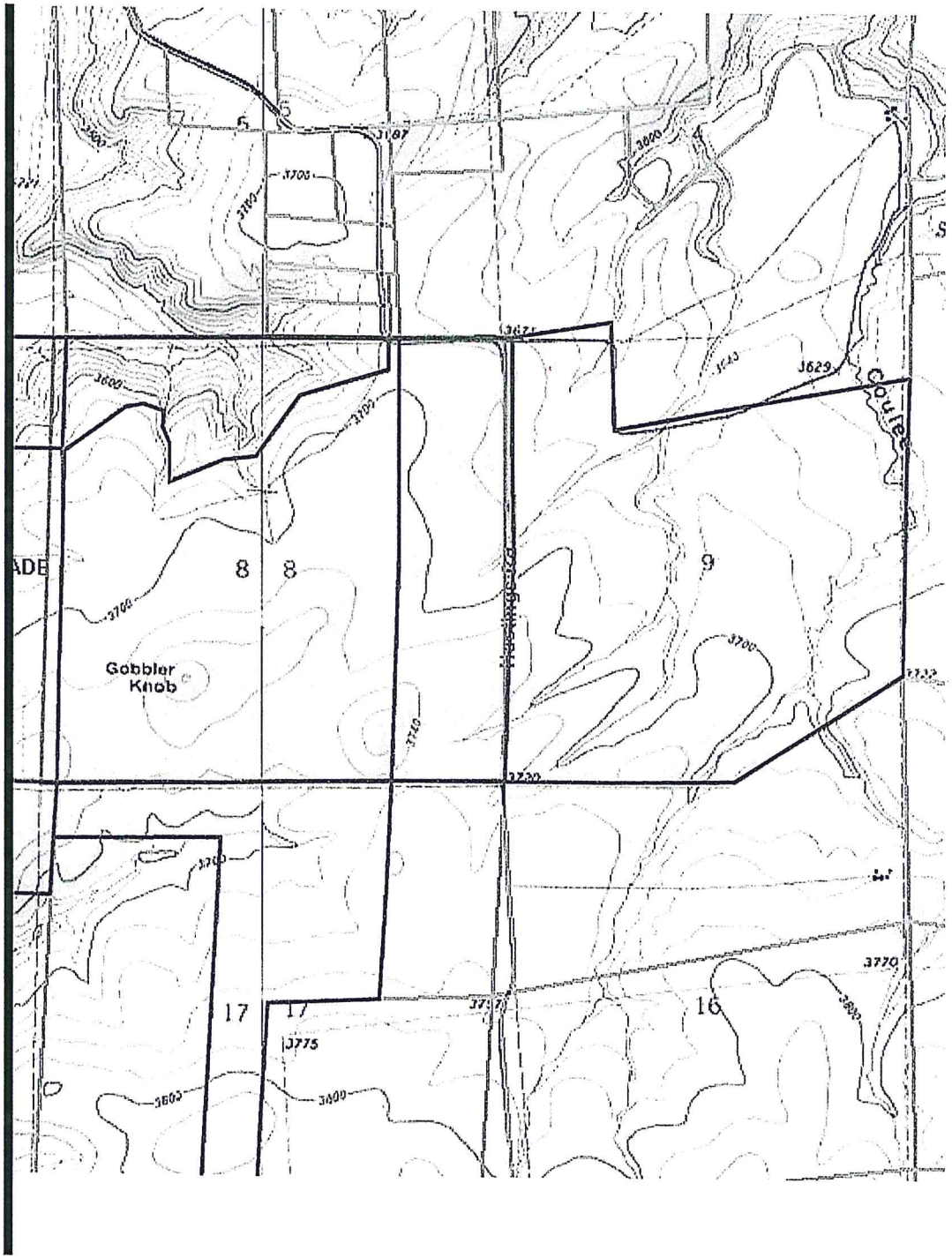
Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
BIG STONE COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 8 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

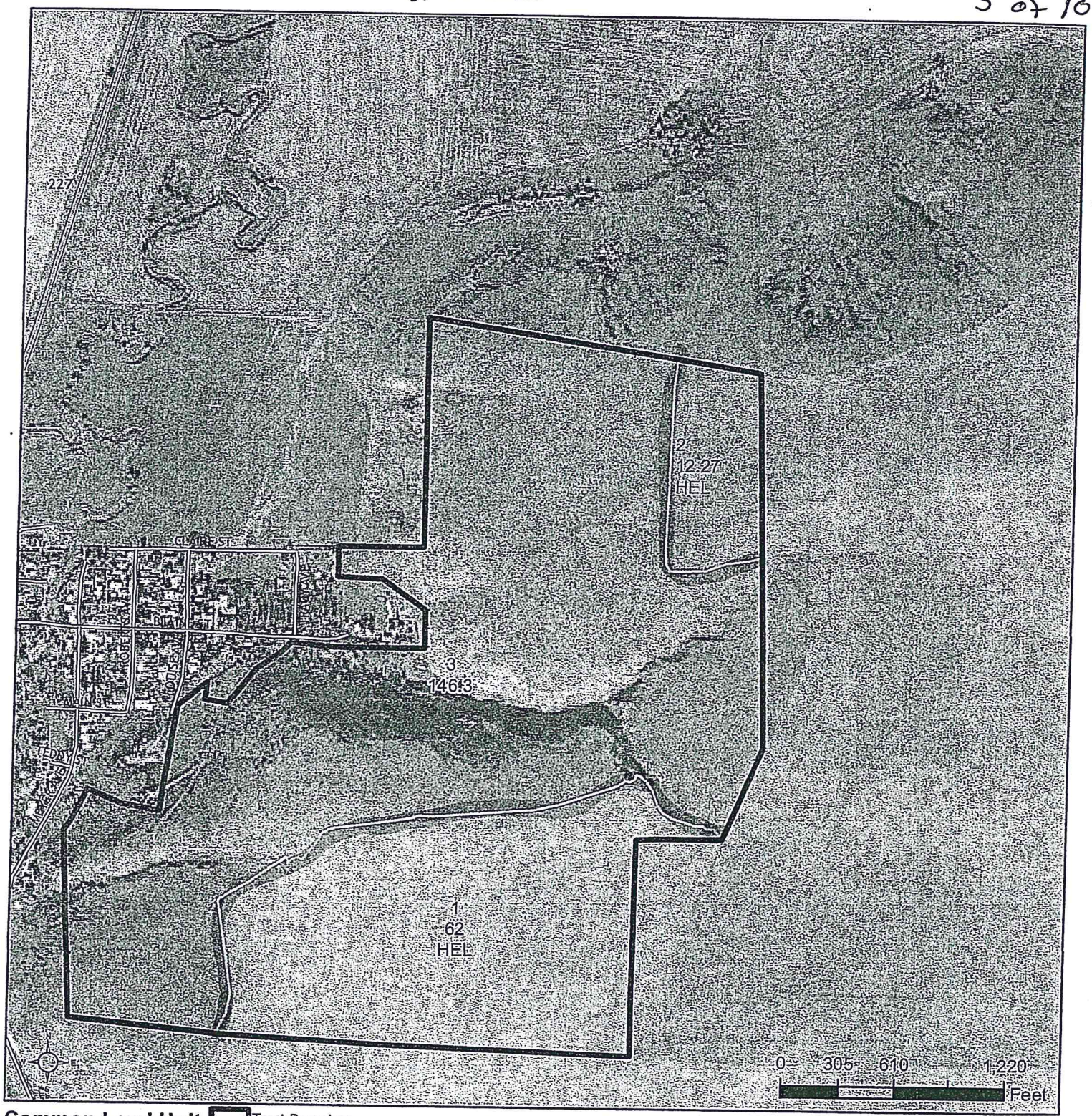
Field: Sec 8			Crop: Wheat		Year: 2017 - 2018			
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

USDA United States Department of Agriculture

Cascade County, Montana

X Hill Top Colony NMP

5 of 10



Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

70 ac Spreadable

Tract Cropland Total: 74.27 acres

2017 Program Year

Map Created February 19, 2016

Farm **7965**

Tract **12000**

7-19N-5E

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United States Department of Agriculture

Cascade County, Montana

mon Land Unit
Cropland
Rangeland
Tract Boundary

d Determination Identifiers
stricted Use
ited Restrictions
mpt from Conservation
pliance Provisions

Buffer 100'
545 ac spreadable

Tract Cropland Total: 562.90 acres

2017 Program Year
Map Created February 18, 2016
Farm 7965
Tract 10007

es Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration
ather it depicts the information provided directly from the producer and/or National Agricultural
risks associated with its use. USDA-FSA assumes no responsibility for
Wetland identifiers do not represent the size, shape, or
nd determinations or contact USDA Natural

Hill Top Colony NMP

6 of 10

USDA United States Department of Agriculture

Cascade County, Montana

Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

147 ac spreadable

Tract Cropland Total: 150.57 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **8564**

17-19N-5E

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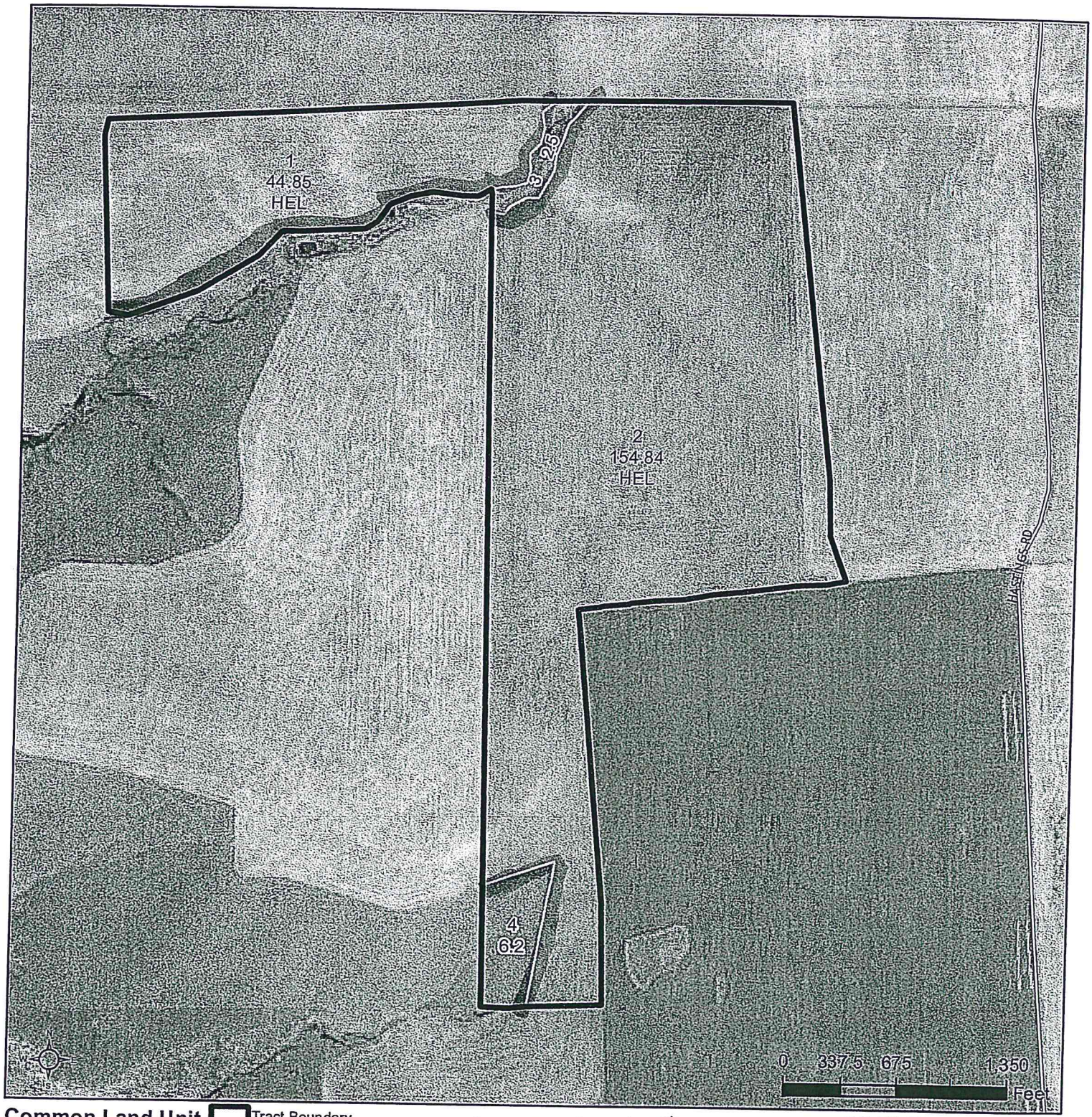
USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit Tract Boundary
Cropland
Rangeland

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

196 ac spreadable

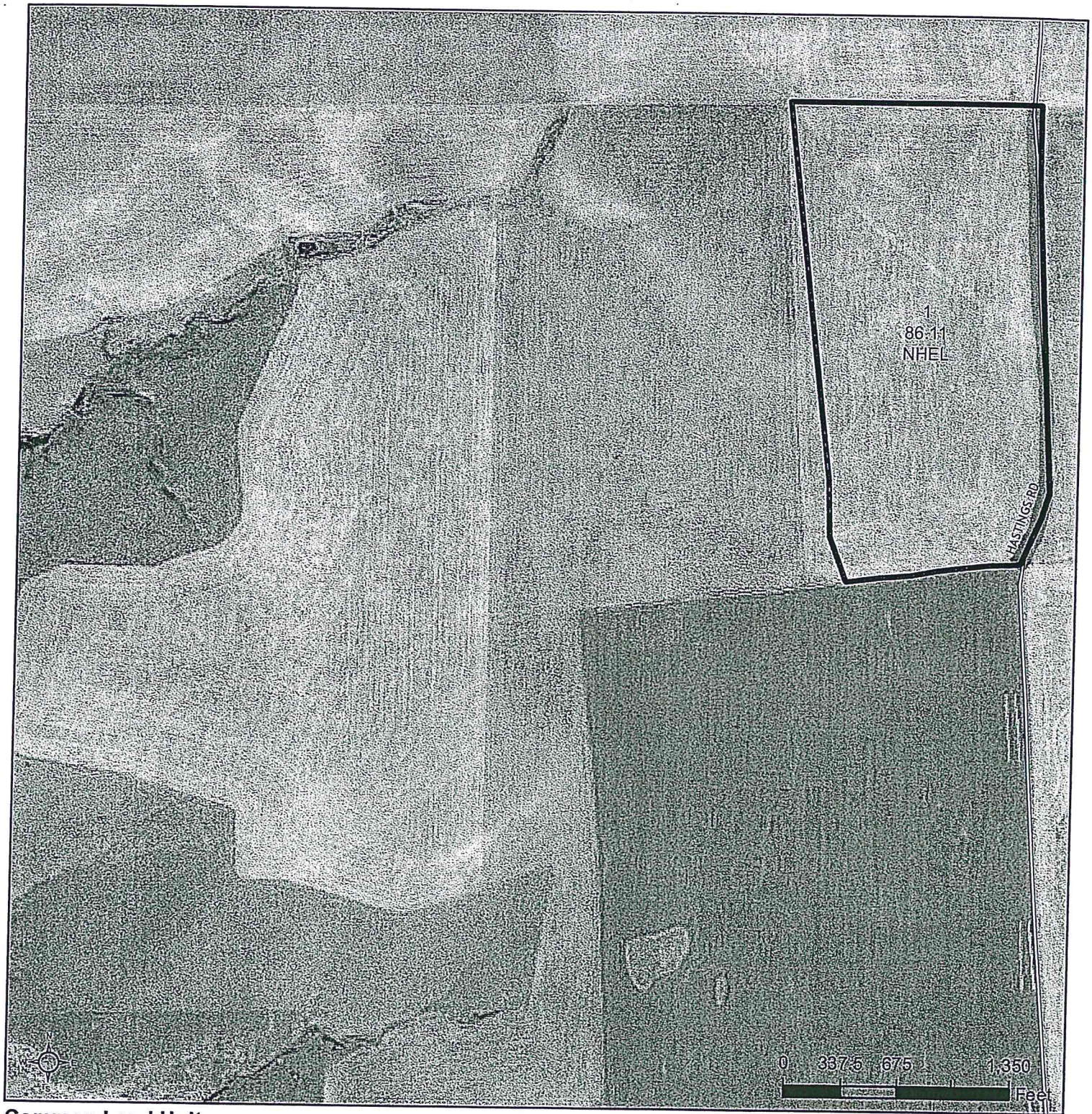
Tract Cropland Total: 199.69 acres

2017 Program Year
Map Created February 18, 2016

Farm **7965**
Tract **8565**
17-19N-5E

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit

Cropland

Tract Boundary

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

84 ac spreadable

Tract Cropland Total: 86.11 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **9208**

17-19N-5E

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Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

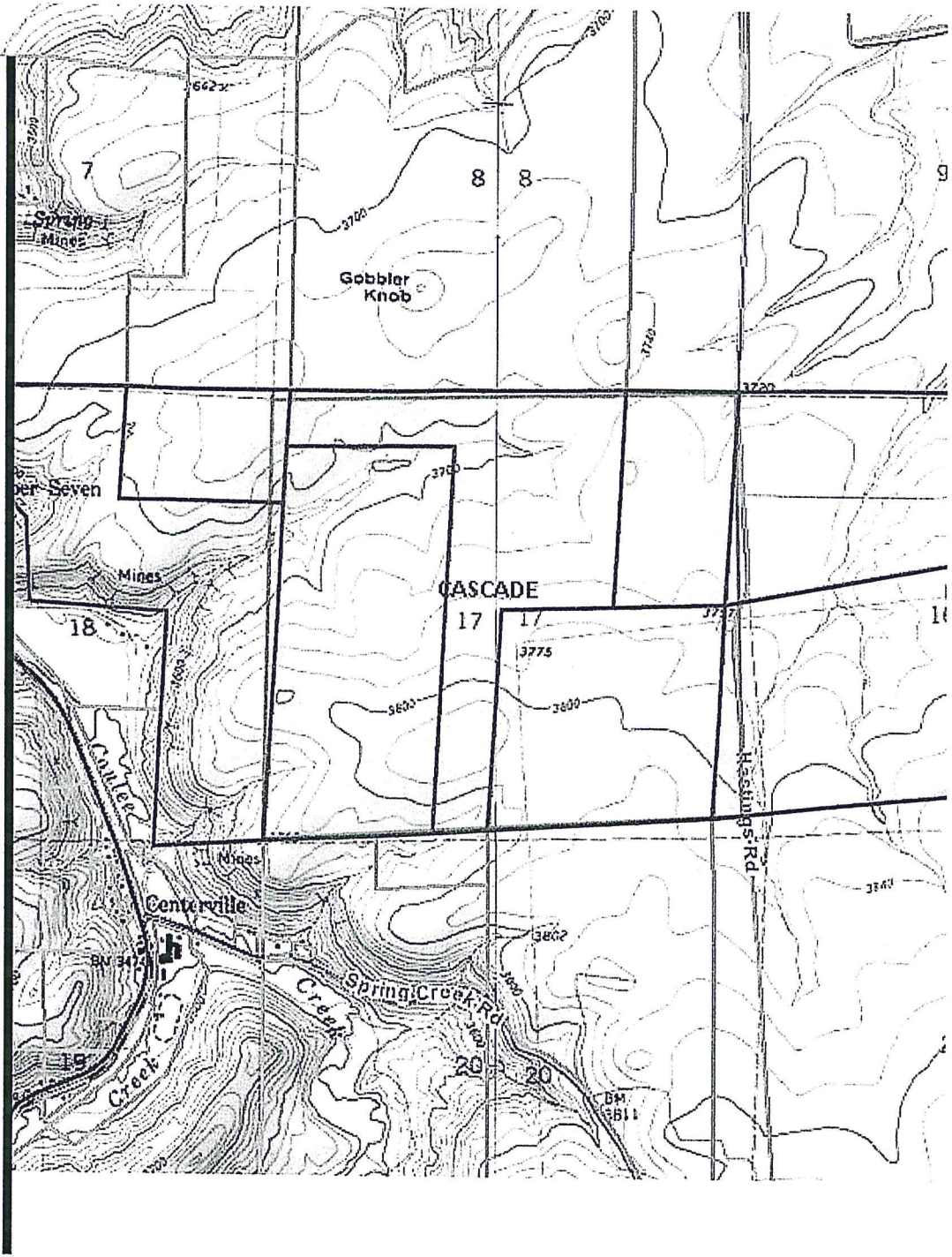
Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
STATE OF MONTANA
HILL TOP COLONY INC



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 17 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 17 Crop: Wheat Year: 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Hill Top Colony NMP

7 of 10

USDA United States Department of Agriculture

Cascade County, Montana

Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

1000 ac spreadable

Tract Cropland Total: 1072.51 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **10009**

3-19N-5E

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Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

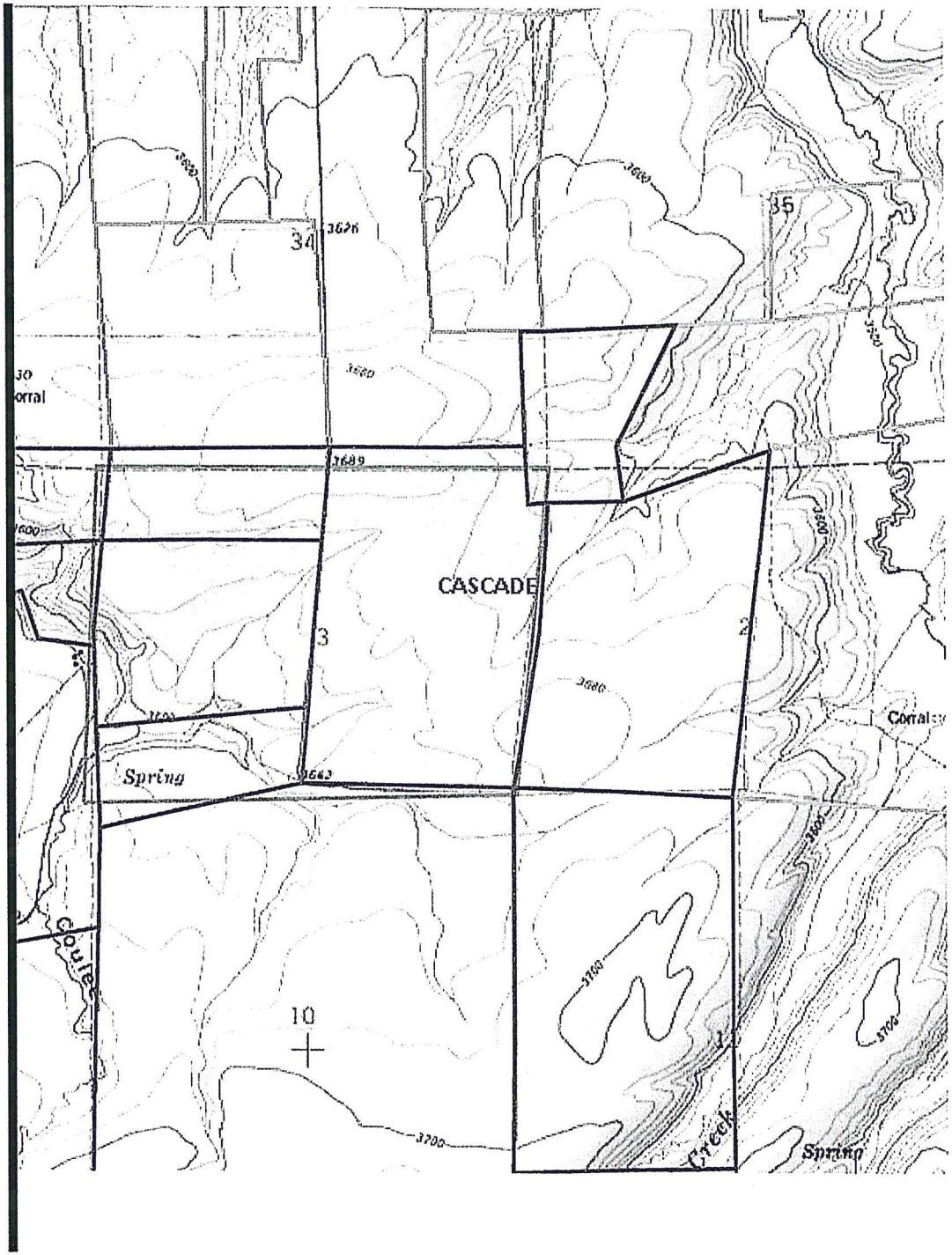
Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

SCOTT MARDEL M
ZOLLER JOHN B TRUST
ZOLLER JOHN B TRUST
ZOLLER JOHN TRUST B
KYSO CORPORATION
KYSO CORPORATION
HILL TOP COLONY INC
HILL TOP COLONY INC
HILL TOP COLONY INC
MEHMKE WALTER A & ROBYN
ZOLLER JOHN TRUST B ETAL



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 3 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 3 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Hill Top Colony NMP

8 of 10

USDA United States Department of Agriculture

Cascade County, Montana

Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

235 ac spreadable

Tract Cropland Total: 246.49 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **8201**

22-19N-5E

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Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

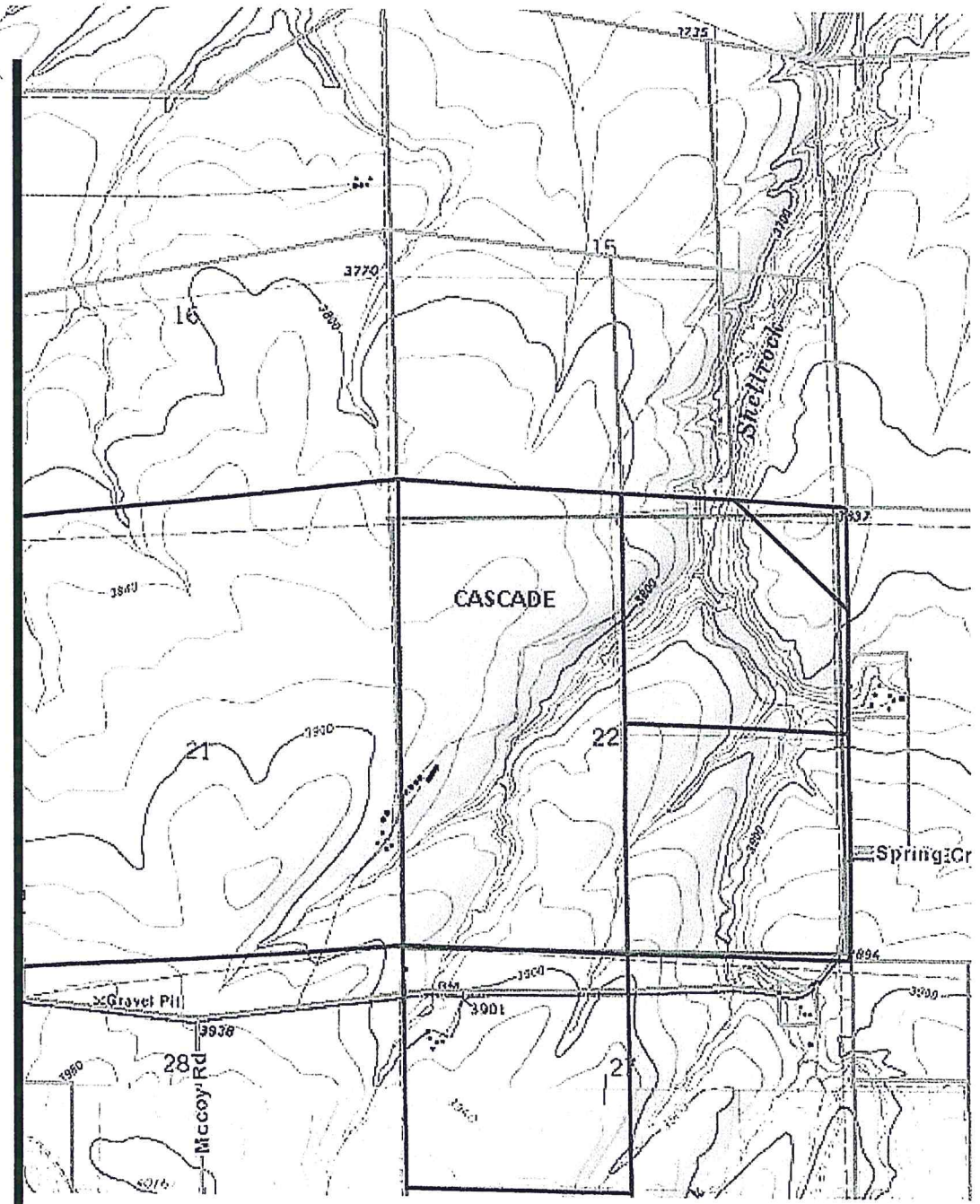
Buffer/Area Select Options

Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Please wait, this may take a minute...



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 22 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 22 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Hill Top Colony NMP

9 of 10

USDA United States Department of Agriculture

Cascade County, Montana

Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Basser 100!

168 ac spreadable

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **8198**

15-19N-5E

Tract Cropland Total: 169.61 acres

USDA United States Department of Agriculture

Cascade County, Montana

Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

328 ac spreadable

Tract Cropland Total: 332.68 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **2339**

15-19N-5E

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Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

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BUMGARNER J EVERETT & VERNELDA M
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HILL TOP COLONY INC
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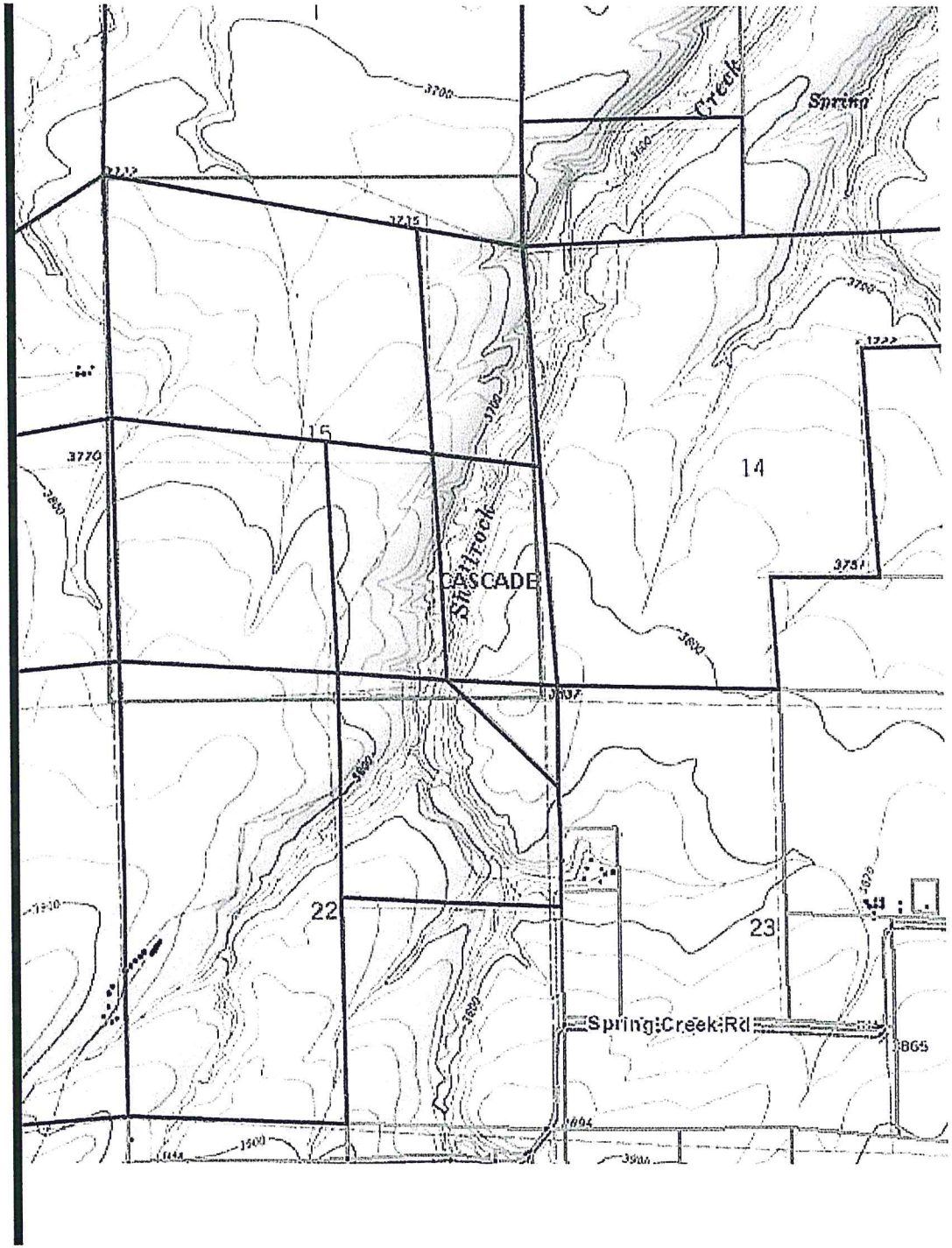
BUMGARNER J EVERETT & VERNELDA M
HILL TOP COLONY INC
HILL TOP COLONY INC
CALLENDER DENNIS B & PENELOPE M
BUMGARNER J EVERETT & VERNELDA M



Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 15 Crop: Wheat Year: 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 15 **Crop:** Wheat **Year:** 2017 - 2018

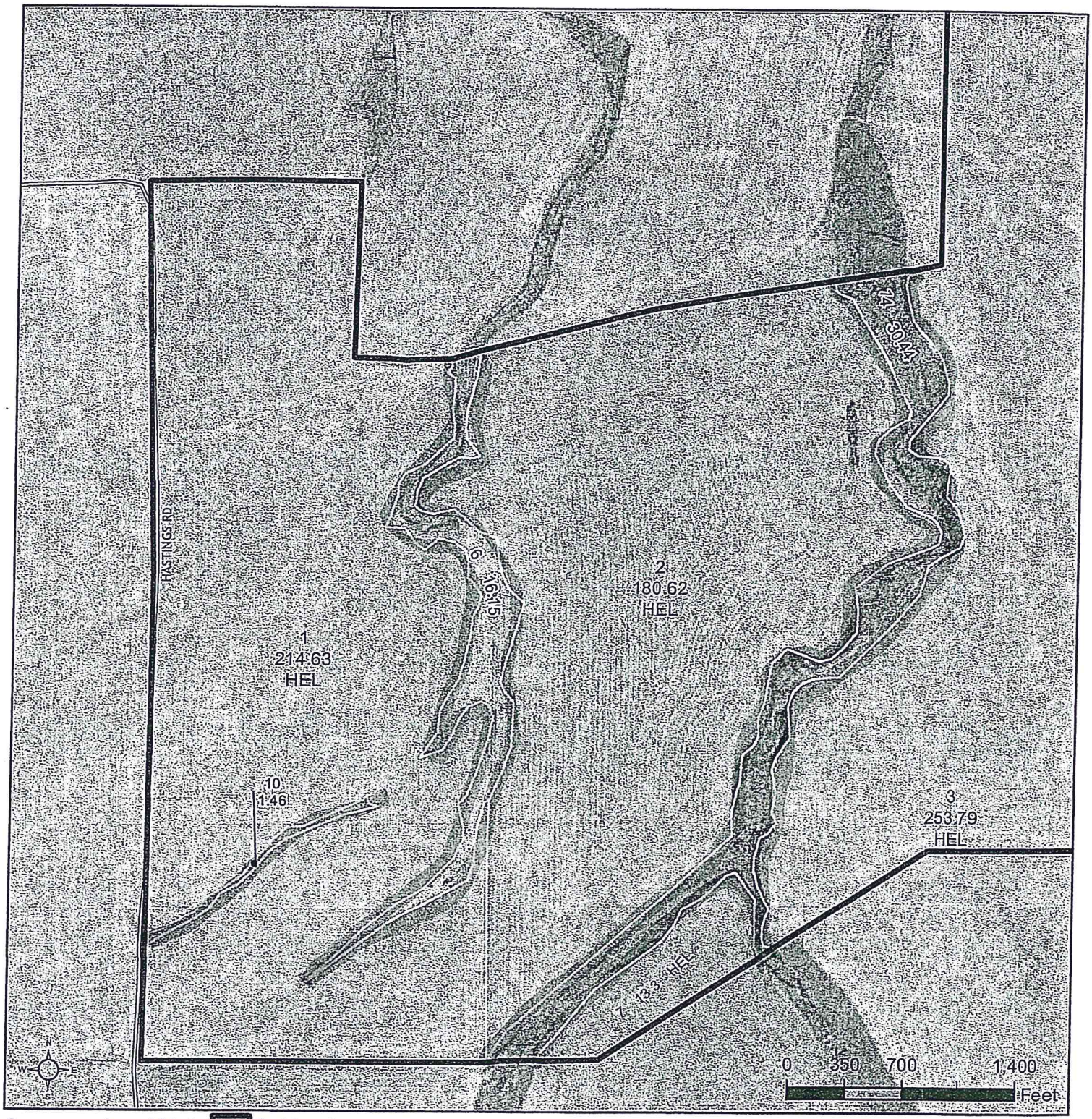
Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Hill Top Colony NMP

10 of 10

USDA United States Department of Agriculture

Cascade County, Montana



Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

1000 ac Spreadable

Tract Cropland Total: 1072.51 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **10009**

9-19N-5E

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Hill Top Colony

USDA United States Department of Agriculture

Cascade County, Montana

Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

Buffer 100'

1000 ac Spreadable

Tract Cropland Total: 1072.51 acres

2017 Program Year

Map Created February 18, 2016

Farm **7965**

Tract **10009**

10-19N-5E

Switch Map Tool...

- ○ Identify
- ○ Quick Zoom
- ◉ Buffer/Area Select
- ○ Measure

Buffer/Area Select Options

Buffer | Polygon

Draw a polygon on the map. All parcels within the polygon will be selected.

Click on the polygon button again to reset.

Choose Owner Name...

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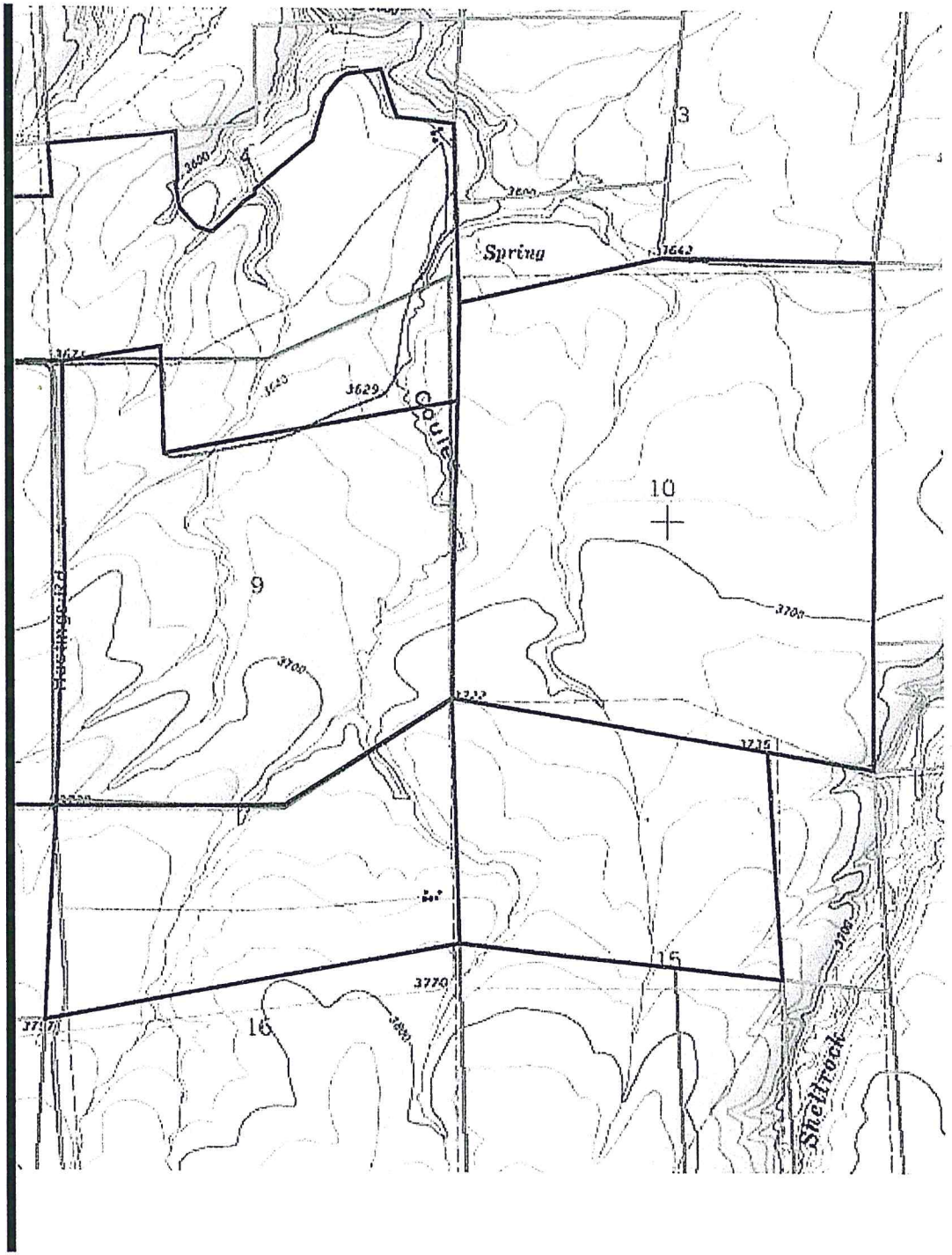
HILL TOP COLONY INC
HILL TOP COLONY INC



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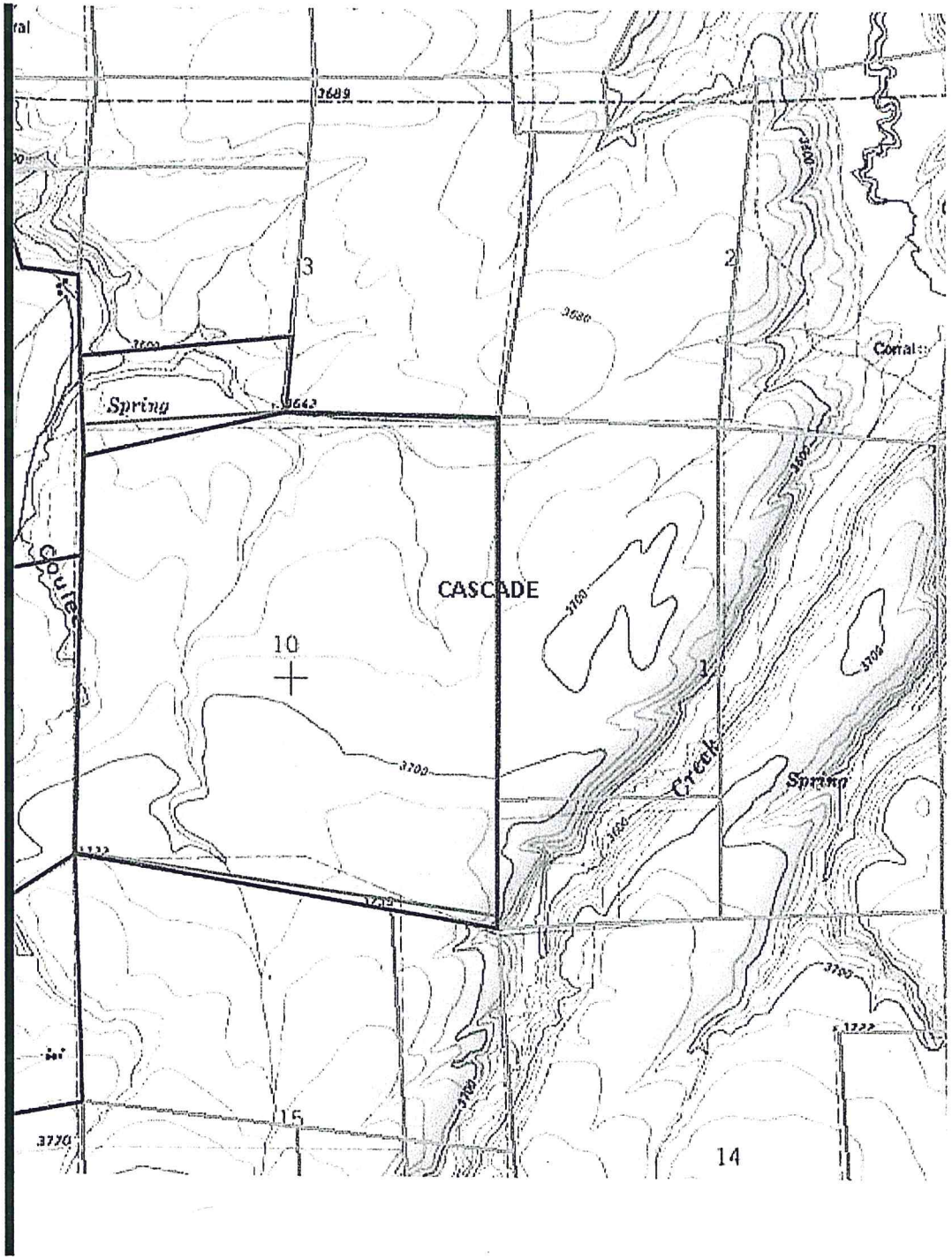
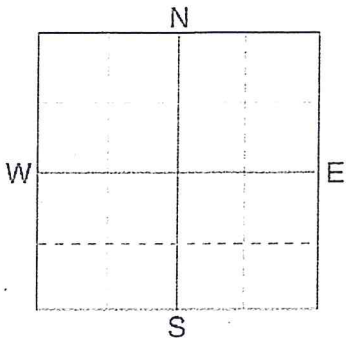
HILL TOP COLONY INC



AGVISE LABORATORIES
P.O. BOX 510, NORTHWOOD, ND 58267
Northwood: (701) 587-6010
Benson: (320) 843-4109

MANURE REPORT

SAMPLE **LIQUID - LEMONADE BOTTLE**
TYPE **Liquid Manure**
SOURCE **Swine**
STORAGE
LAB NUM **BN420**



SUBMITTED FOR:
HILL TOP COLONY

STOCKET, MT

SUBMITTED BY: **DR4916**
DRY FORK AG
301 MAIN ST
LEDGER, MT **59456**

MOISTURE	**95**
DRY MATTER	**5.3**

Date Sampled **09/14/16** Date Received **09/09/16** Date Reported **11/7/2016**

	Dry Basis	As Received	lbs/1000 gal
Total Nitrogen (N):		.204 %	16.932
Ammonium Nitrogen:		.037 %	3.1
Nitrate Nitrogen:		.00056 %	.046
Inorganic Nitrogen:		.03756 %	3.11748
Organic Nitrogen:		.16644 %	13.81452
Phosphate (P2O5):	1 %	.055 %	4.5
Potash (K2O):	20 %	1.1 %	89
Sodium:	5.9 %	.31 %	26
Calcium:	1.2 %	.062 %	5.1
Magnesium:	2 %	.1 %	8.7
Zinc:	326 ppm	17 ppm	.14
Iron:	553 ppm	29 ppm	.24
Manganese:	92 ppm	4.8 ppm	.04
Copper:	736 ppm	39 ppm	.32
Sulfur:	2.3 %	.12 %	9.8
Chloride:			
pH:			
Salts:			
Total Carbon:			
Volatile Solids:			

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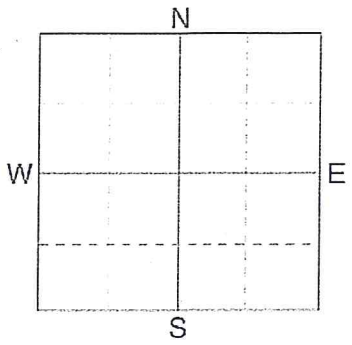
P.O. BOX 510, NORTHWOOD, ND 58267
Northwood: (701) 587-6010
Benson: (320) 843-4109

MANURE REPORT

SAMPLE **POULTRY DRY**
TYPE **Solid Manure**
SOURCE **Poultry**
STORAGE
LAB NUM **BN419**



SUBMITTED FOR:
HILL TOP COLONY

STOCKET, MT

SUBMITTED BY: **DR4916**
DRY FORK AG
301 MAIN ST
LEDGER, MT **59456**

MOISTURE	**10**
DRY MATTER	**90**

Date Sampled **09/14/16** Date Received **09/09/16** Date Reported **11/7/2016**

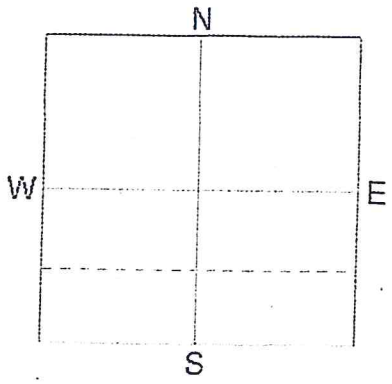
	Dry Basis	As Received	lbs/ton
Total Nitrogen (N):		**4.609 %**	**92.18**
Ammonium Nitrogen:		**.16 %**	**3.2**
Nitrate Nitrogen:		**.00083 %**	**.017**
Inorganic Nitrogen:		**.16083 %**	**3.2166**
Organic Nitrogen:		**4.44817 %**	**88.9634**
Phosphate (P2O5):	**3.6 %**	**3.2 %**	**65**
Potash (K2O):	**1.6 %**	**1.4 %**	**28**
Sodium:	**.27 %**	**.24 %**	**4.8**
Calcium:	**7.6 %**	**6.8 %**	**136**
Magnesium:	**.46 %**	**.42 %**	**8.3**
Zinc:	**199 ppm**	**178 ppm**	**.36**
Iron:	**706 ppm**	**632 ppm**	**1.3**
Manganese:	**299 ppm**	**268 ppm**	**.54**
Copper:	**22 ppm**	**20 ppm**	**.04**
Sulfur:	**.42 %**	**.38 %**	**7.5**
Chloride:			
pH:			
Salts:			
Total Carbon:			
Volatile Solids:			

AGVISE LABORATORIES

Soil Analysis by Agvise Laboratories
(http://www.agvise.com)
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
SAMPLE ID **TREE PIECE**
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
HILL TOP COLONY

SUBMITTED BY: **MO4720**
MT. VIEW COOP-GREAT FALLS
1700 52ND ST N
GREAT FALLS, MT 59405

REF # **17102429** BOX # **0**
LAB # **NW72611**

Date Sampled **09/14/2016** Date Received **09/16/2016** Date Reported **9/20/2016**

Nutrient In The Soil		Interpretation (Very Low … High)
Nitrate	0-6" 11 lb/ac 6-24" 9 lb/ac 0-24" 20 lb/ac	****
Phosphorus	Olsen 18 ppm	**********
Potassium	383 ppm	**********
Chloride	0-24" 28 lb/ac	**********
Sulfur	0-6" 10 lb/ac 6-24" 30 lb/ac	**********
Boron	0.5 ppm	**********
Zinc	1.52 ppm	**********
Iron	29.6 ppm	**********
Manganese	5.7 ppm	**********
Copper	2.41 ppm	**********
Magnesium	401 ppm	**********
Calcium	3804 ppm	**********
Sodium	25 ppm	****
Org.Matter	3.3 %	**********
Carbonate(CCE)	0.8 %	*****
Sol. Salts	0-6" 0.33 mmho/cm 6-24" 0.27 mmho/cm	**********

1st Crop Choice		
Wheat-Winter		
YIELD GOAL		
50 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	130	Customized
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl	12	Broadcast
S	7	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
Wheat-High Pro.		
YIELD GOAL		
50 Bu		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	140	Customized
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl	12	Broadcast
S	7	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

3rd Crop Choice		
Wheat-Winter		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	145	Customized
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl	12	Broadcast
S	7	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.3 6-24" 8.2		23.5 meq	(65-75) 81.1	(15-20) 14.2	(1-7) 4.2	(0-5) 0.5	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: The nitrogen guideline for this recommendation has been customized by the submitter. 26 lbs of 0-0-60 = 12 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: The nitrogen guideline for this recommendation has been customized by the submitter. 26 lbs of 0-0-60 = 12 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: The nitrogen guideline for this recommendation has been customized by the submitter. 26 lbs of 0-0-60 = 12 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 34 K2O = 21 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

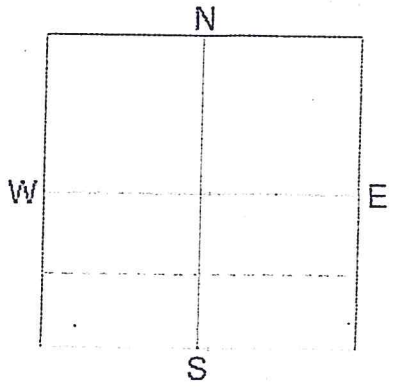
The Fsa legals that go to this soil sample is: Farm 7965; Tract10009; 9-19N-5E

AGVISE LABORATORIES

Soil Analysis by Agvise Laboratories
(http://www.agvise.com)
Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
SAMPLE ID **NORTH EVES CRP**
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR ACRES **0**
PREV. CROP



SUBMITTED FOR:
HILL TOP COLONY

SUBMITTED BY: **MO4720**
MT. VIEW COOP-GREAT FALLS
1700 52ND ST N
GREAT FALLS, MT 59405

REF # **18697170** BOX # **0**
LAB # **NW72608**

Date Sampled **09/14/2016** Date Received **09/16/2016** Date Reported **9/20/2016**

Nutrient In The Soil		Interpretation
		Low High
Nitrate	0-6" 12 lb/ac 6-24" 12 lb/ac 0-24" 24 lb/ac	*****
Phosphorus	Olsen 17 ppm	**********
Potassium	305 ppm	**********
Chloride	0-24" 16 lb/ac	******
Sulfur	0-6" 10 lb/ac 6-24" 24 lb/ac	********* **********
Boron	0.6 ppm	********
Zinc	2.41 ppm	**********
Iron	30.1 ppm	**********
Manganese	5.4 ppm	**********
Copper	2.29 ppm	**********
Magnesium	332 ppm	**********
Calcium	3785 ppm	**********
Sodium	22 ppm	***
Org.Matter	3.5 %	**********
Carbonate(CCE)	1.1 %	******
Sol. Salts	0-6" 0.36 mmho/cm 6-24" 0.32 mmho/cm	******** ********

1st Crop Choice		
Wheat-Winter		
YIELD GOAL		
50 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	126	Customized
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl	24	Broadcast
S	7	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
Wheat-Winter		
YIELD GOAL		
50 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	126	Customized
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl	24	Broadcast
S	7	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

3rd Crop Choice		
Wheat-Winter		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	141	Customized
P_2O_5	16	Band *
K_2O	10	Band (Starter)*
Cl	24	Broadcast
S	7	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.2 6-24" 8.1		22.6 meq	(65-75) 83.9	(15-20) 12.3	(1-7) 3.5	(0-5) 0.4	(0-5)

General Comments: Fine Loams (CEC range 21 to 30) (Medium)

Crop 1: The nitrogen guideline for this recommendation has been customized by the submitter. 52 lbs of 0-0-60 = 24 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: The nitrogen guideline for this recommendation has been customized by the submitter. 52 lbs of 0-0-60 = 24 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 31 K2O = 19 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: The nitrogen guideline for this recommendation has been customized by the submitter. 52 lbs of 0-0-60 = 24 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 34 K2O = 21 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

The Fsa legal that go to this field is: Farm 7965; Tract 10009; 9-19N-5E

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 9 2/0 **Crop:** Wheat **Year:** 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	1	X 0.5	.5
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	1
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:			Liquid Hog Manure					9

Appendix A: Phosphorus Index Worksheet (Complete for each field and crop)

Field: Sec 9 2/0 Crop: Wheat Year: 2017 - 2018

Field Category Factor	None (0)	Low (1)	Medium (2)	High (4)	Very High (8)	Risk Value (0,1,2,4,8)	Weight Factor	Weight Risk
Soil Erosion	NA	<5 tons/as/yr	5-10 ton/ac/yr	10-15 tons/ac/yr	QA> 10 for erodible soils	1	X 1.5	1.5
Furrow Irrigation Erosion	N/A	Tail water recovery, QS>6 very erodible soils, or QS>10 other soils	QS> for erosion resistant soil	QS> for erodible soils	QA>6 for very erodible soils	0	X 1.5	0
Sprinkler Irrigation Erosion	All fields 0-3% slope, all sandy fields or field evaluation indicates little or no runoff large spray on silts 3-8%	Medium spray on silty soils 3-15% slopes, large spray on silty soils 8-15% slope, low spray on silt soils 3-8% large spray on clay soil 3-15% slope	Medium spray on clay soils 3-8% slopes, large spray on clay soils >15% slope, medium spray on silt soil >15% slope	Medium spray on clay soils >8% slope, low spray on clay soil 3-8% slope, low spray on silty soils >15% slopes	Low spray on clay soils >8% slopes	0	X 1.5	0
Runoff Class	Negligible	Very Low or Low	Medium	High	Very High	2	X 0.5	1
Olson Soil Test P	———	<20 ppm	20-40 ppm	40-80 ppm	>80 ppm	2	X 0.5	1
Commercial P Fertilizer Application Method	None Applied	Placed with Planter or injection deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop emerges	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Commercial P Fertilizer Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	2	X 1.0	2
Organic P Source Application Method	None Applied	Injected deeper than 2 inches	Incorporated <3 months prior to planting or surface applied during growing season	Incorporated >3 months before crop or surface applied <3 months before crop.	Surface applied to pasture or >3 months before crop emerges	1	X 1.0	1
Organic P Source Application Rate	None Applied	<30 lbs/ac P205	31-90 lbs/ac P205	91-150 lbs/ac P205	>150 lbs/ac P205	4	X 1.0	4
Distance to Concentrated Surface Water Flow	>1,000 feet	200-1,000 feet, or functioning grass waterways in concentrated surface water	100-200 feet	<100 feet	0 feet or application are directly into concentrated surface water flow areas.	2	X 1.0	2
Total Phosphorus Index Value:				Poultry Manure				13.5

Hill Top Colony Nutrient Mngt. Plan

Soils North

USDA United States Department of Agriculture
Natural Resources Conservation Service

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Match whole words [✓]

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- Component Legend

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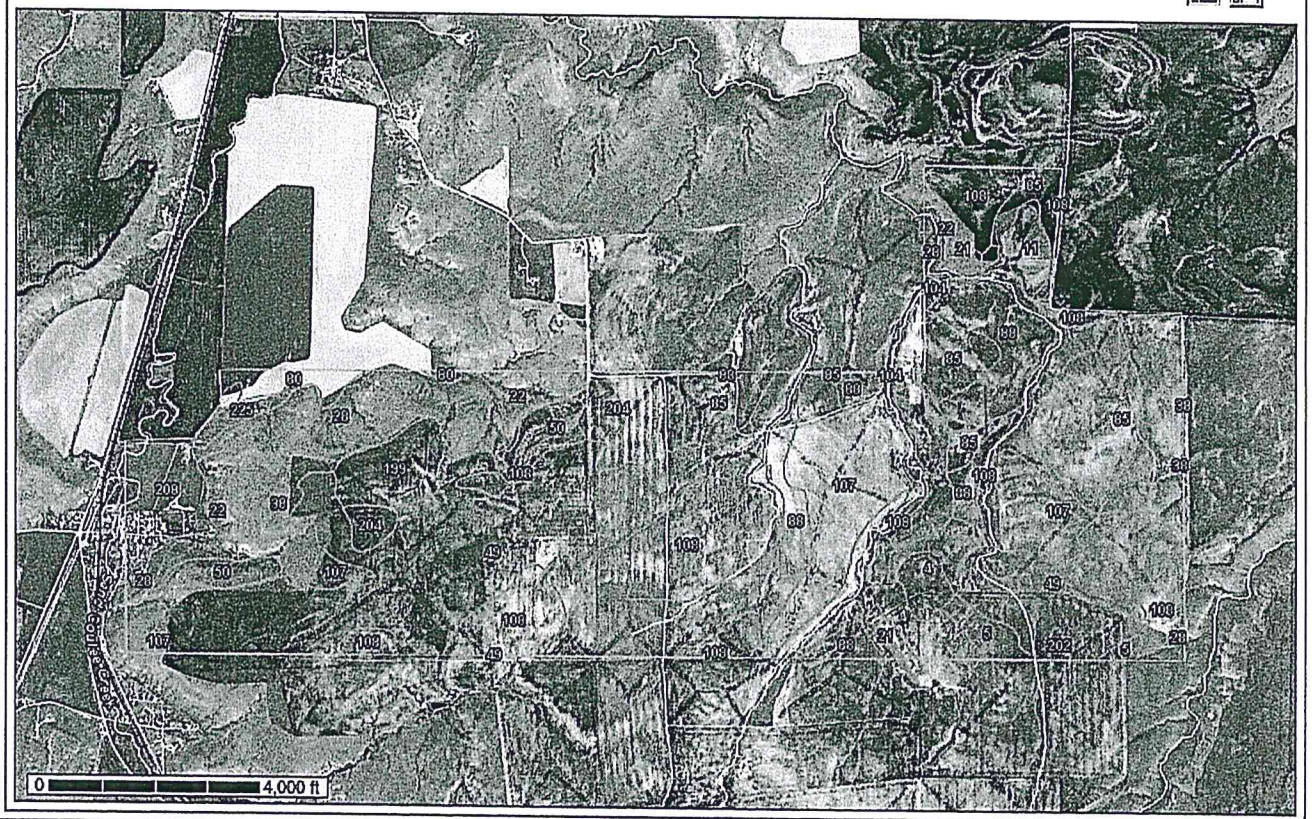
- Component Text Descriptions
- Descripción de la Unidad de Mapa
- Descripción de la Unidad de Mapa (Breve, Generada)
- Legend
- Map Unit Description
- Map Unit Description (Brief)

Soil Map

Scale 1:24,900 ±1%



Report — Component Legend

Cascade County Area, Montana

Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High

Cascade County Area, Montana

4—Absarokee clay loam, 0 to 4 percent slopes	14,813	90	Absarokee	Series	0.0	2.0	4.0
		90	Absarokee	Series	4.0	6.0	8.0
5—Absarokee clay loam, 4 to 8 percent slopes	22,019						
		90	Acel	Series	0.0	1.0	2.0
11—Acel silty clay loam, 0 to 2 percent slopes	2,545						
		55	Big timber	Series	8.0	19.0	30.0
		30	Castner	Series	8.0	19.0	30.0
21—Big Timber-Castner complex, 8 to 30 percent slopes	7,066						
		55	Big timber	Series	30.0	50.0	70.0
		25	Castner	Series	30.0	50.0	70.0
22—Big Timber-Castner complex, 30 to 70 percent slopes	14,349						
		45	Bitton	Series	10.0	38.0	65.0
		45	Roy	Series	10.0	38.0	65.0
28—Bitton and Roy soils, 10 to 65 percent slopes	55,520						
		65	Castner	Series	2.0	9.0	15.0
		15	Sinnigam	Series	2.0	9.0	15.0
38—Castner-Sinnigam complex, 2 to 15 percent slopes	17,589						
		60	Darret	Series	2.0	5.0	8.0
		25	Castner	Series	2.0	5.0	8.0
49—Darret-Castner complex, 2 to 8 percent slopes	10,598						
		65	Darret	Series	8.0	14.0	20.0
		25	Castner	Series	8.0	14.0	20.0
50—Darret-Castner complex, 8 to 20 percent slopes	7,229						
		90	Fergus	Series	0.0	1.0	2.0
80—Fergus silty clay loam, 0 to 2 percent slopes	3,039						
		90	Gerber	Series	0.0	2.0	4.0
85—Gerber silty clay loam, 0 to 4 percent slopes	28,405						
		55	Gerber	Series	4.0	6.0	8.0
88—Gerber-Lawther silty clays, 4 to 8 percent slopes	11,266						

Cascade County Area, Montana

104—Ipano-Castner complex, 8 to 15 percent slopes	2,572	35	Lawther	Series	4.0	6.0	8.0
		50	Ipano	Series	8.0	12.0	15.0
		35	Castner	Series	8.0	12.0	15.0
107—Ipano-Ticell loams, 0 to 4 percent slopes	15,023						
		55	Ipano	Series	0.0	2.0	4.0
		20	Ticell	Series	0.0	2.0	4.0
108—Ipano-Ticell loams, 4 to 10 percent slopes	16,330						
		55	Ipano	Series	4.0	7.0	10.0
		20	Ticell	Series	4.0	7.0	10.0
199—Ticell-Castner complex, 0 to 4 percent slopes	5,175						
		45	Ticell	Series	0.0	2.0	4.0
		30	Castner	Series	0.0	2.0	4.0
202—Timberg silty clay, 2 to 10 percent slopes	312						
		90	Timberg	Series	2.0	6.0	10.0
204—Timberg-Castner complex, 2 to 10 percent slopes	4,080						
		60	Timberg	Series	2.0	6.0	10.0
		20	Castner	Series	2.0	6.0	10.0
208—Twin Creek silty clay loam, 0 to 2 percent slopes	2,870						
		90	Twin creek	Series	0.0	1.0	2.0
225—Work clay loam, 8 to 15 percent slopes	4,949						
		85	Work	Series	8.0	12.0	15.0

Description — Component Legend

Component Legend

This report presents general information about the map units and map unit components in the selected area. It shows map unit symbols and names and the components in each map unit. It also shows the percent of the components in the map units, the kind of component, and the slope range of each component.

Hill Top Colony Nutrient Mngt. Plan

1 of 2

Soils South

USDA United States Department of Agriculture
Natural Resources Conservation Service

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AOI Inventory

- Component Description (Nontechnical)
- Component Legend

View Description | View Soil Report

Options

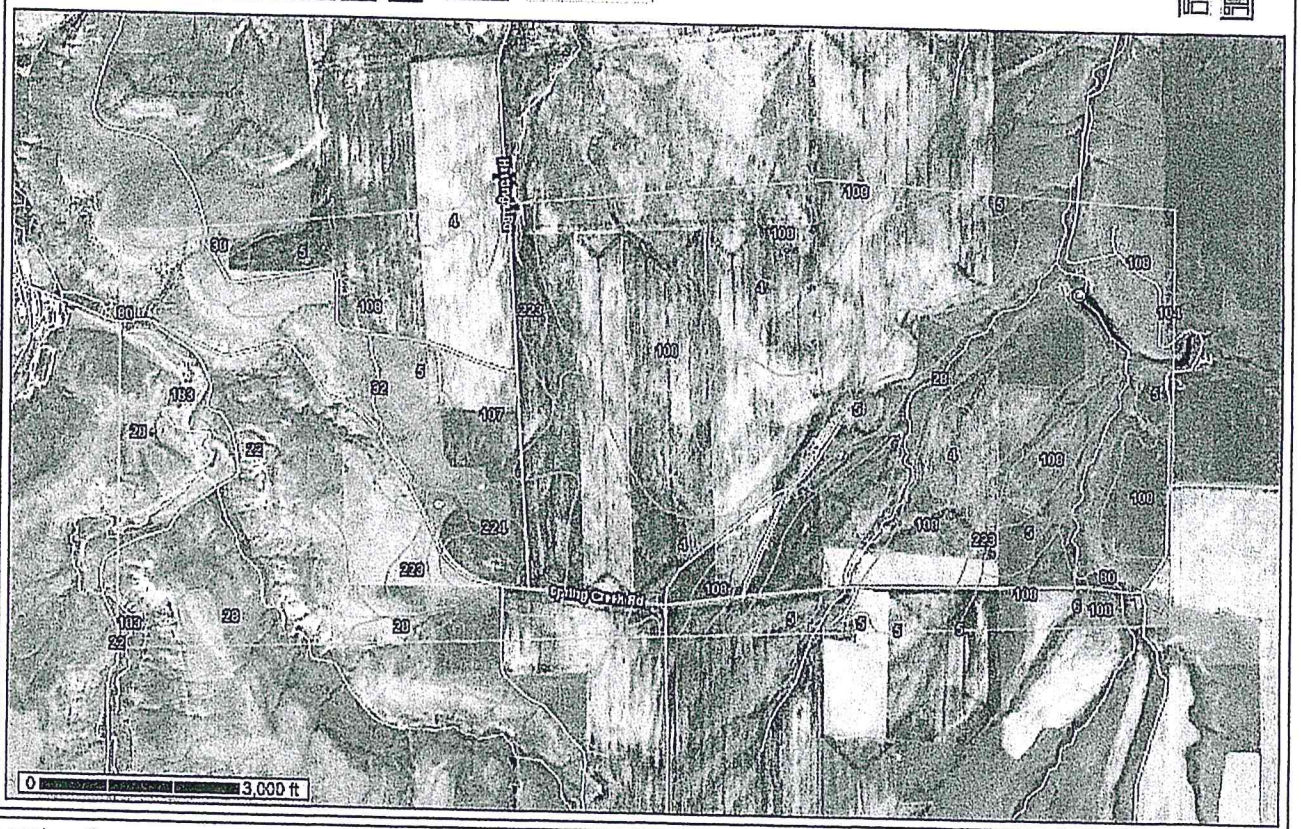
Include minor soils? [ ]

View Description | View Soil Report

- Component Text Descriptions
- Descripción de la Unidad de Mapa
- Descripción de la Unidad de Mapa (Breve, Generada)
- Legend
- Map Unit Description
- Map Unit Description (Brief)

Soil Map

Scale 1:19,800 ± 1 %



Report — Component Legend

Cascade County Area, Montana

Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope Low	RV	High

Cascade County Area, Montana

4—Absarokee clay loam, 0 to 4 percent slopes	14,813
5—Absarokee clay loam, 4 to 8 percent slopes	22,019
11—Acel silty clay loam, 0 to 2 percent slopes	2,545
21—Big Timber-Castner complex, 8 to 30 percent slopes	7,066
22—Big Timber-Castner complex, 30 to 70 percent slopes	14,349
28—Bitton and Roy soils, 10 to 65 percent slopes	55,520
38—Castner-Sinnigam complex, 2 to 15 percent slopes	17,589
49—Darret-Castner complex, 2 to 8 percent slopes	10,598
50—Darret-Castner complex, 8 to 20 percent slopes	7,229
80—Fergus silty clay loam, 0 to 2 percent slopes	3,039
85—Gerber silty clay loam, 0 to 4 percent slopes	28,405
88—Gerber-Lawther silty clays, 4 to 8 percent slopes	11,266

90	Absarokee	Series	0.0	2.0	4.0
90	Absarokee	Series	4.0	6.0	8.0
90	Acel	Series	0.0	1.0	2.0
55	Big timber	Series	8.0	19.0	30.0
30	Castner	Series	8.0	19.0	30.0
55	Big timber	Series	30.0	50.0	70.0
25	Castner	Series	30.0	50.0	70.0
45	Bitton	Series	10.0	38.0	65.0
45	Roy	Series	10.0	38.0	65.0
65	Castner	Series	2.0	9.0	15.0
15	Sinnigam	Series	2.0	9.0	15.0
60	Darret	Series	2.0	5.0	8.0
25	Castner	Series	2.0	5.0	8.0
65	Darret	Series	8.0	14.0	20.0
25	Castner	Series	8.0	14.0	20.0
90	Fergus	Series	0.0	1.0	2.0
90	Gerber	Series	0.0	2.0	4.0
55	Gerber	Series	4.0	6.0	8.0

Cascade County Area, Montana

104—Ipano-Castner complex, 8 to 15 percent slopes	2,572	35	Lawther	Series	4.0	6.0	8.0
		50	Ipano	Series	8.0	12.0	15.0
		35	Castner	Series	8.0	12.0	15.0
107—Ipano-Ticell loams, 0 to 4 percent slopes	15,023						
		55	Ipano	Series	0.0	2.0	4.0
		20	Ticell	Series	0.0	2.0	4.0
108—Ipano-Ticell loams, 4 to 10 percent slopes	16,330						
		55	Ipano	Series	4.0	7.0	10.0
		20	Ticell	Series	4.0	7.0	10.0
199—Ticell-Castner complex, 0 to 4 percent slopes	5,175						
		45	Ticell	Series	0.0	2.0	4.0
		30	Castner	Series	0.0	2.0	4.0
202—Timberg silty clay, 2 to 10 percent slopes	312						
204—Timberg-Castner complex, 2 to 10 percent slopes	4,080	90	Timberg	Series	2.0	6.0	10.0
		60	Timberg	Series	2.0	6.0	10.0
		20	Castner	Series	2.0	6.0	10.0
208—Twin Creek silty clay loam, 0 to 2 percent slopes	2,870						
225—Work clay loam, 8 to 15 percent slopes	4,949	90	Twin creek	Series	0.0	1.0	2.0
		85	Work	Series	8.0	12.0	15.0

Description — Component Legend

Component Legend

This report presents general information about the map units and map unit components in the selected area. It shows map unit symbols and names and the components in each map unit. It also shows the percent of the components in the map units, the kind of component, and the slope range of each component.